PREPPING 101

40 STEPS YOU CAN TAKE TO BE PREPARED

Protect Your Family

Prepare for Weather Disasters

Be Ready and Resilient when Emergencies Arise

KATHY HARRISON

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TO BRUCE

For convincing me I could

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Introduction

HAVE YOU EVER IMAGINED how you would manage if tomorrow you woke to find the power out, supermarkets shuttered, and gas stations closed until further notice? Would you be ready to tackle day-to-day activities? Could you feed your family and keep them warm? Are you prepared?

Families dealing with crisis is nothing new. In fact, it has been the norm throughout history. My grandmother fed and clothed her family during the difficult years of the Great Depression. With a young family and a husband serving overseas, my mother coped with rationing during World War II. In my lifetime, I've watched as *terrorism* became a household word and the Great Recession robbed people I knew of their homes and livelihoods. These days political turmoil is on the rise, the climate is changing faster than most people expected, and

global debt threatens financial markets around the world. The U.S. Centers for Disease Control reports that international travel makes a global pandemic a near certainty. Cyberwarfare is our new reality.

One of the downsides to our easy access to news and information is a kind of catastrophe overload. It's easy to become overwhelmed and demoralized by just how fragile our systems are. Still, there are hopeful signs on the horizon. More communities are organizing resiliency groups and investing in their common spaces. Solar panels dot the landscape in increasing numbers and, after a long period of decline, volunteerism is rising again. Food initiatives like community gardens and community-supported agriculture (CSA) farms are popping up in urban areas as people address the problem of food deserts. Taking family preparedness to a community level bodes well for all of us. Personally, I am grateful that I don't have to do this alone. Prepared communities are connected communities, and prepared families are connected families.

I completely understand the desire to think about something else. Some days I refuse to watch the news. Instead, I drink tea, pull weeds, walk in the woods, or take a nap. But because I have seen the future, my desire to escape doesn't last long. George W. Bush's famous words to the FEMA director who was largely believed to have mishandled the aftermath of Hurricane Katrina, "Brownie, you're doing a heck of a job," have become a catchphrase for the inability of governmental and private agencies to deal with a crisis of such proportions. It's my job to prepare now to ensure my family is protected.

"I'm not suggesting that you build a bunker ..."

Television programs that depict people interested in preparing for difficult times as delusional, gun-toting, bunker-dwelling paranoiacs have gone a long way toward stopping much sober, reflective conversation about what a family resiliency plan should look like. My goal is to forge ahead and have that conversation, no matter how uncomfortable it may be. I am not asking you to prepare for the end of the world as we know it, but the skills and the mind-set you'll learn are transferable from the short run to the long run. The water filter you build with your child as a science fair project will work if you need clean water, and the solar oven will cook a meal in the absence of electricity (and the presence of sunlight).

I'm not suggesting that you build a bunker (I'm not really a bunker kind of girl) or cash in the college fund to purchase a

year's supply of freeze-dried food for every member of your family. You won't be a wilderness survival expert after reading this book. I can't teach you to field-dress a deer or perform an emergency appendectomy.

But I do suggest that you spend some time thinking about your home and community systems and assessing how you can make them more resilient should you have to live through an extended power outage or be unable to leave your home due to a security crisis. The action items I suggest offer concrete steps to check off as well as ways to cope in an emergency situation. You will have things to buy, things to make, and things to learn. The process won't take over your life and may even enhance it as you build confidence about your ability to meet your family's needs during a crisis.

Will you use everything you learn here? Maybe not, but I am sure of one thing: After any unexpected event, you will never hear anyone say, "Gee, I wish I hadn't been so well prepared."

CHAPTER 01

CREATE A PREPAREDNESS BINDER

Buy a binder and fill it with critical personal information for easy access in an emergency situation.

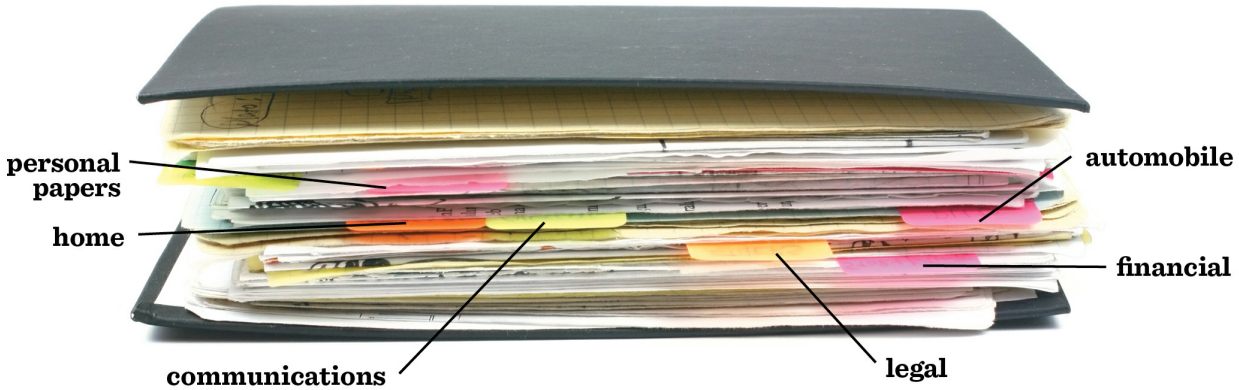
In the interest of full disclosure, I should tell you that I never met a list I didn't love. In the face of an emergency, I'm as likely to organize my sock drawer as anything else. Being organized helps me quiet my mind and think rationally as opposed to panicking and forgetting essential tasks. So it should come as no surprise that the first thing I suggest you do on your journey to a more prepared life is to get yourself organized with a preparedness notebook.

I call this the grab-and-go binder because it's the one you'll want to grab on your way out the door in an emergency. If the worst happens — you wake up to the smell of smoke or the call comes telling you to evacuate now — this will be the thing you grab after your kids and pets. Your binder holds hard copies of all the details of life that help you navigate the electronic and bureaucratic world we live in. If nothing terrible ever happens, if your life flows by without a single serious event, you will still be grateful to have your paperwork organized and at your fingertips.

Your notebook might look different from mine. If you live in an apartment in a big city, keep a plan for how to get beyond the city limits. Are you in a hurricane-prone area? Keep a copy of local evacuation routes, as well as the numbers for places you can stay once you have evacuated the area. The beauty of this binder is that, as your personal guide to getting by in a crisis, it's a continual work-in-progress. Pages can be added or removed, updated, and refined. It will serve you well in an emergency.

You can use whatever kind of binder you like; I prefer the type with a plastic overlay that allows you to insert a picture. I stenciled "Home Sweet Home" on mine, but you might prefer a picture of your house, your family, or maybe even a zombie. Add

some filler paper, lots of dividers (I like the kind with pockets), and clear page protectors for important paperwork. Plastic sheets with small pockets designed to hold baseball cards are perfect for holding business cards and single keys.



A GREAT GIFT

If a member of your household moves into independent living, you can give him or her a preparedness binder. Such a binder is a great house-warming gift for the newly independent young adult or even for a parent or grand-parent who isn't in the habit of thinking in terms of emergencies.

A Section for Everyone

Prepare a section in the binder for each family member. Include documents that would be potentially important to your ability to function and difficult to replace, such as the following:

Adoption decree

Birth certificate

Driver's license

Immunization records

Marriage license

Passport

Social security card

Prescriptions for eyeglasses and medications

Be sure to add pictures of your dependents, especially if they would be unable to provide identifying information due to age or special needs. If you get separated, the photos will aid in finding them.

Don't forget a section for your pets. Include an up-to-date picture, immunization records, and notes of any medications or health issues, as well as a list of pet-friendly emergency shelters.

Storage

Once your binder is complete, choose a dedicated spot to keep it. You might consider hiding it in plain sight in a bookcase or with your photo albums, or you might prefer to keep it in a more secure location. Just be sure it's accessible in an emergency and your family knows where it is.

I store my original documents in my fire safe and keep copies in my binder. It's a balance between security and accessibility, and you'll have to weigh that yourself. This is especially true for numbers that could compromise your financial security like the personal identification number (PIN) for each of your automated teller machine (ATM) cards.

Other Important Information

HOUSING. Keep key documents related to your house in another section of the binder. Mine contains the deed to our house, a copy of our home insurance policy, and a copy of my last real estate tax payment receipt. I've stashed copies of my house keys there, too.

FINANCIAL. Include a printout of each account and its PIN, as well as a copy of your credit card information. These should be in sealed envelopes for security reasons. You might want to keep a record of any valuables like jewelry or art pieces. Only you know what information will be critical in an emergency. I would far rather keep a copy of something that seemed a bit like overkill than find myself needing some documentation that just went up in smoke. You don't need an entire tax return, but you might keep the cover sheet that shows how much tax you paid in the preceding year. (See also Review Your Financial Preparedness.)

CONTACT INFORMATION. How many people are unable to call friends and family if they don't have access to the lists in their smartphones? Too many, I fear. After a terrible ice storm, people in my community had to spend valuable time compiling a list of vulnerable neighbors who needed to be checked on. Now that list is at my fingertips.

Create a hard copy of critical phone numbers, e-mail addresses, and mailing and street addresses. Include family and friends, of course, but also the numbers for your insurance companies, clergy, medical providers, and emergency services like the Federal Emergency Management Agency (FEMA). If you have pets, add your veterinarian's number, as well as that of local animal shelters. Include the numbers for a couple of hotels

you might relocate to if you needed to evacuate. I go into more detail about each of these categories later, but you need a jumping-off place. (See also Keep Communication Open.)

CHAPTER 02

ASSESS YOUR LIGHTING NEEDS

Address your lighting needs in the event of an extended power outage.

As January winds blow cold where I live and the sky is relentlessly gray, I console myself with knowing that the days are getting longer, the seed catalogs are arriving, and before long buckets will hang from the sides of the sugar maples. Still, it's a very dark time, with the sun not fully up until 7:00 a.m. and setting before 5:00 p.m. By 4:00 we need the lights on, especially if we want to read or do any fine work. If the power goes out now, as it often does, we are severely restricted in our activities unless we have some alternate light. (See also Stock Up on Batteries.)

Flashlights

I'm a bit of a hoarder when it comes to flashlights. There are so many places where the right light is critical, and flashlights are often your best choice. They are safe and generally inexpensive, and the newer models have long battery and bulb life. The right flashlight depends on the circumstances. Tiny lights are perfect for attaching to key rings or slipping in a purse or pocket. Make sure you keep fresh batteries stored or have a way to recharge your flashlight. (See Stock Up on Batteries.)

For your home, you need a medium-sized light placed next to each bed, plus one strategically placed in each room so you can get your hands on it if the power goes out unexpectedly. This size is perfect for your bug-out bag and your car kit. They are not too large to carry comfortably but still provide enough light for navigating in the dark.

A larger light is better for illuminating large swaths of your yard. This is useful for assessing damage or dangers (think rising water, dangling electrical wires, or suspicious noises). I like a nine-volt light with a top handle at the very least.

Many flashlights come with some special lighting features. Some have two light settings, which can prolong your battery life, as well as a flashing option, which is good if you are signaling for help. Others come with lens filters. Blue filters are good for reading maps in the dark, and red filters don't diminish your night vision. Green filters are usually the choice for night hunting.

Price Matters

The price point varies on flashlights. I have seen them for as little as a dollar, but this is a case of getting what you pay for. Bargain basement lights have brittle cases and short bulb life. Splurge on lights with durable rubber cases and comfortable grips. This will ensure that the light is fairly waterproof and the case will survive being dropped and banged around a bit. My favorite flashlight, the Supernova Guardian 1300XL Tactical Flashlight, cost a gut-wrenching $50 (minimum), but it is a workhorse. It has high, medium, low, strobe, and SOS modes and illuminates an area 300 yards away. It's rechargeable, too. If I could have only one flashlight, this would be it.

Hand-Crank Hype

I had high hopes for hand-crank flashlights, but they have not lived up to expectations. The idea is that you turn a crank to power up a tiny generator, which in turn fuels the lightbulb. The LED bulbs that most of these have are very bright, but even the best need a lot of cranking and the charge doesn't hold long. This is especially true of the cheaper brands, which tend to break after just a few uses. Kids don't mind doing the cranking, but I quickly got sick of it. I expect the technology to continue to improve on these, but they would not be my first choice.

Other Battery-Operated Lights

An LED headlamp for every member of the family is a good investment. Headlamps come in a range of prices and are extremely handy. You won't mind looking like a coal miner when the light allows you to have both hands free to gather wood, clean up a mess, or prepare food.

Plug-in emergency lights in hallways and near stairs are a good idea. In a power outage, the batteries kick in, providing enough light to navigate by and to prevent the sudden plunge into darkness that is so jarring. In winter, we place a battery-operated candle in each window, which serves the same purpose. Operating on a sensor, the candles come on as the daylight fades. If the power goes out at night, they are already on, and we can see to set up the oil lamps.

One of my handiest gadgets is a clip-on, battery-operated LED booklight. I liked mine so much that I got one for each family member. We all like to read or do handiwork in the evenings, and this is just the ticket for directing light exactly where you need it.

Candles

Candles are generally inexpensive and readily available, making them easy to stock up on. I have purchased a case of emergency candles for well under $20. Each summer, as I visit yard sales and garage sales, I pick up bags of candles for next to nothing. Some are partially burned and many have a holiday theme, but when the lights are out in January, no one cares if the candle is shaped like a pumpkin.

Candles do have some considerable drawbacks, however. The main issue is safety. Open flames around kids and pets are a problem. Find a stable spot for your candle, away from flowing curtains and flammable materials, and make sure the holder has a wide, heavy base. Tall candlesticks are lovely, but they topple easily. We use holders with globes so that the flames are contained. Be sure a fire extinguisher is nearby and never, ever leave lit candles in a room without an adult present, even for a minute.

Another issue is that most candles are made from paraffin, which is a petroleum distillate, and some people react to the smell. Candles with added scent can be even worse for those with sensitivities. Beeswax candles are lovely and will not bother most, but the cost can be prohibitive.

The final problem is light quality: Candlelight just isn't very good. Yet there are things you can do to improve it. Placing candles in front of and on top of a mirror will reflect much more light into a room. Large candles with thick wicks emit more light than thin candles.

Oil Lamps

Every hardware store I have ever been in carries oil lamps, most of which are not expensive. When you purchase one, include stick matches and extra lamp oil. The globes break easily, so it's a good idea to have a few extras. Like candles, oil lamps benefit from being placed in front a mirror and need to be watched carefully around children. They also need some basic care. After each use, trim the wick and clean the globe to maximize light output. By the way, you won't get more light if you lengthen the wick while it's burning. You will mostly get more smoke and soot.

The light from oil lamps has a yellow tint and is not very bright, although I can read by it if I sit quite close. Another problem is the odor, which gives some people headaches. In addition to table lamps, there are holders for hanging oil lamps from a wall or ceiling. This can spread the light out into a room, but I have found that hanging dilutes the light to the point at which I can no longer read. I also worry about having the flame so close to my wall.

Solar Lights

In theory, solar lights seem like a good thing, and I do have several, but they have a major problem: They must be fully charged in bright light to be useful. During a storm that light doesn't exist, and in northern climates it's hard to get enough light in winter no matter how bright the day. But solar lights can be useful in summer or in sunnier parts of the country.

CHAPTER 03

CALCULATE YOUR WATER NEEDS

Figure out how much water your family, including pets, needs for a minimum of three days and put that much in storage.

On the list of things that disappear from store shelves when a storm is on the horizon, water is nearly always at the top. Have you ever seen video of a supermarket on the day before a major storm is supposed to arrive? Carts are full of bottled water and shelves are bare. People who wait do without.

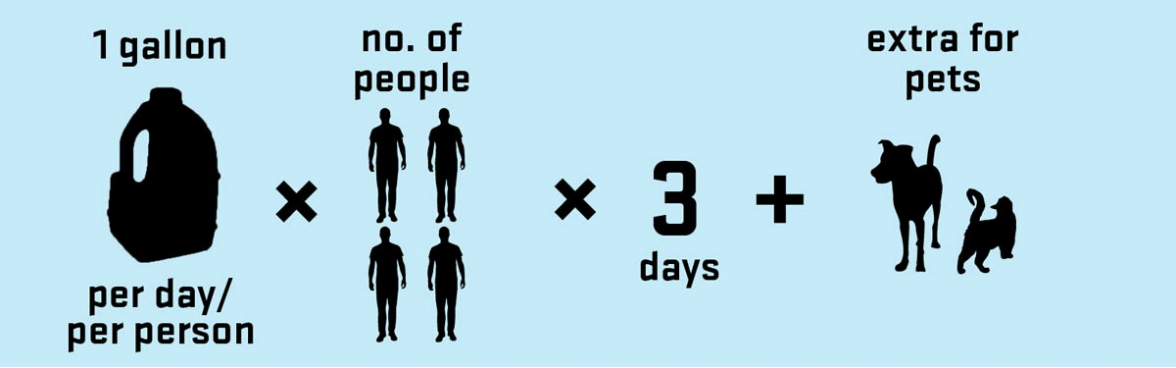
There is both good news and bad news with water storage. First, the good news: Water is nearly free to stock up on when

the lights are on, the pumps are working, and the delivery trucks are running. The bad news is that it's hard to store water in the volume you need for more than a few days.

Calculate How Much

The U.S. government preparedness site, Ready.gov, recommends storing a gallon of water per person per day for three days as well as enough water for your pets. A gallon a day provides 2 quarts for drinking and cooking and 2 quarts for washing up. For a family of four for three days, that's only 12 gallons, which doesn't seem too hard to store. However, there are several reasons you may want to have more than the bare minimum on hand. One simple reason is that many emergencies go on much longer than three days; another is that you may have friends or family members who end up staying with you unexpectedly. A gallon per day doesn't include water for flushing and doesn't take into account the extra water people might need because of temperature extremes or increased physical exertion.

HOW MUCH DRINKING WATER DO YOU NEED?



Storing Tap Water

Let's begin with learning about how to store the water that comes out of your tap. I am going to assume it is potable and that your water use isn't restricted. Next, you'll need some containers.

You can use heavy-duty jugs, the kind juice is sold in, that are made of plastic with the code 2, 4, or 5. Do not reuse plastic milk jugs, which are coded 1 and usually made of polyethylene terephthalate (PET). This is a somewhat porous material and is very hard to clean. It begins to degrade if exposed to heat or light, or after prolonged use. Milk jugs are designed for short-term use and begin to degrade rather quickly. They are difficult to get clean, and any water stored in one will soon taste terrible and provide a breeding ground for bacteria and algae.

No matter what the code, never use non-food-grade plastic containers to store drinking water or any container that has held something other than food, especially any container that has ever held any poison or contaminated product. For washing-up or flushing water, you can thoroughly clean and rinse

laundry detergent jugs or the large containers that cat litter comes in, though those can be quite heavy. Or you can buy 5-gallon food-grade polycarbonate water jugs at any number of stores.

To clean beverage containers, wash them in hot, soapy water; then rinse, rinse, and rinse again. Even the tiniest smidgen of residual juice or soap will spoil the whole bottle. During the final rinse, I fill the bottle with water, add 1 teaspoon of bleach, and let it sit for 10 minutes. Then I pour it out and fill the container with tap water. The slight residue of bleach will prevent bacterial growth for a long time. As long as it is from a municipal source, water will last a long time if stored in a cool, dark spot.

Buying Water in Containers

An alternative is to simply purchase water in gallon jugs or individual bottles. Most brands of water are sold in PET containers (the same material milk jugs are made from), so if you do buy gallon jugs, you must plan to rotate your supply every three to six months. Again, PET containers are not intended for long-term storage. Even though the manufacturer may say you can store them for a year, I had a couple of bottles leak into a case of pasta after just a few months. That was a real mess. Another factor to consider is cost: Single-serve bottles of water may be prohibitively expensive. Also, adding that much plastic to the waste stream is not ideal.

A better option, should you have no choice but to purchase water, is to buy it in 5- or 7-gallon plastic containers, which are readily available at most home improvement or other big-box stores. Because water weighs a bit more than 8 pounds per

gallon, a 7-gallon container is probably the largest you can manage without a dolly of some sort. Some of these containers have a spigot at the bottom, which makes them easy to use. Even larger water jugs, designed to sit on a dispenser platform, are available. These should also be rotated every 6 months.

STOCK UP

As you shop, add supplies that will decrease the amount of water you will need for daily activities so that more is available for consumption. Things to consider include the following:

- Hand sanitizer
- Disposable dishes
- Paper towels and napkins
- Disposable diapers
- Canned or bottled juices (not concentrates) and shelf-stable milk
- Ready-to-eat soups and meals
- Premoistened towelettes
- Extra socks and underwear

Storing Larger Quantities

Water drums or barrels that hold 40 to 300 gallons can be purchased from several different suppliers, including Emergency Essentials and Good Ideas. Plan to spend over $100 for one on the smaller end of that range. A full 50-gallon barrel weighs about 400 pounds, so fill it where you plan to store it. You will need to purchase some sort of pump or siphon unless you buy a model with a spigot at the bottom.

If you purchase a used drum, be certain that it held nothing but a consumable substance. Properly cleaning a used drum requires some elbow grease, but the savings are considerable. If it has a removable lid, scrub it out with hot, soapy water and rinse several times until all traces of soap have been removed. Add 2 gallons of warm water and 10 tablespoons of unscented bleach to the rinsed barrel. Use a sponge attached to a long handle to wipe this solution across the entire surface, including the interior of the lid. Pour out the solution and let the barrel air-dry before filling it.

If the top has two access holes, use the same process — but instead of scrubbing, roll the barrel around for several minutes for each step. I would still filter the water, but I'm a bit on the conservative side about purity.

Where to Store It

Finding space for all this water can be an issue. It should be kept away from heat and light, so a basement or closet would work. Keep in mind that plastic is permeable, so if you store your water in an area where you also store chemicals, the odors can contaminate your supply.

I store a lot of water in my freezer. A full freezer is more efficient; should the power go out, a full freezer will stay cold longer than a partially empty one will. When filling a water container for freezing, leave some headspace for expansion. You will likely need more air space than you think; I leave 3 inches in ½-gallon mason jars.

That said, glass isn't the best material for freezing, but I have hundreds of jars, so that's what I use. Plastic will expand some and is less likely to break.

Last-Minute Water Storage

You may have come across the advice to fill your bathtub in advance of a storm. This can be a short-term way to store water for things like flushing the toilet. The tub will probably leak

water gradually, though, and there will likely be residue from soaps, grease, and other contaminants, making the water nonpotable.

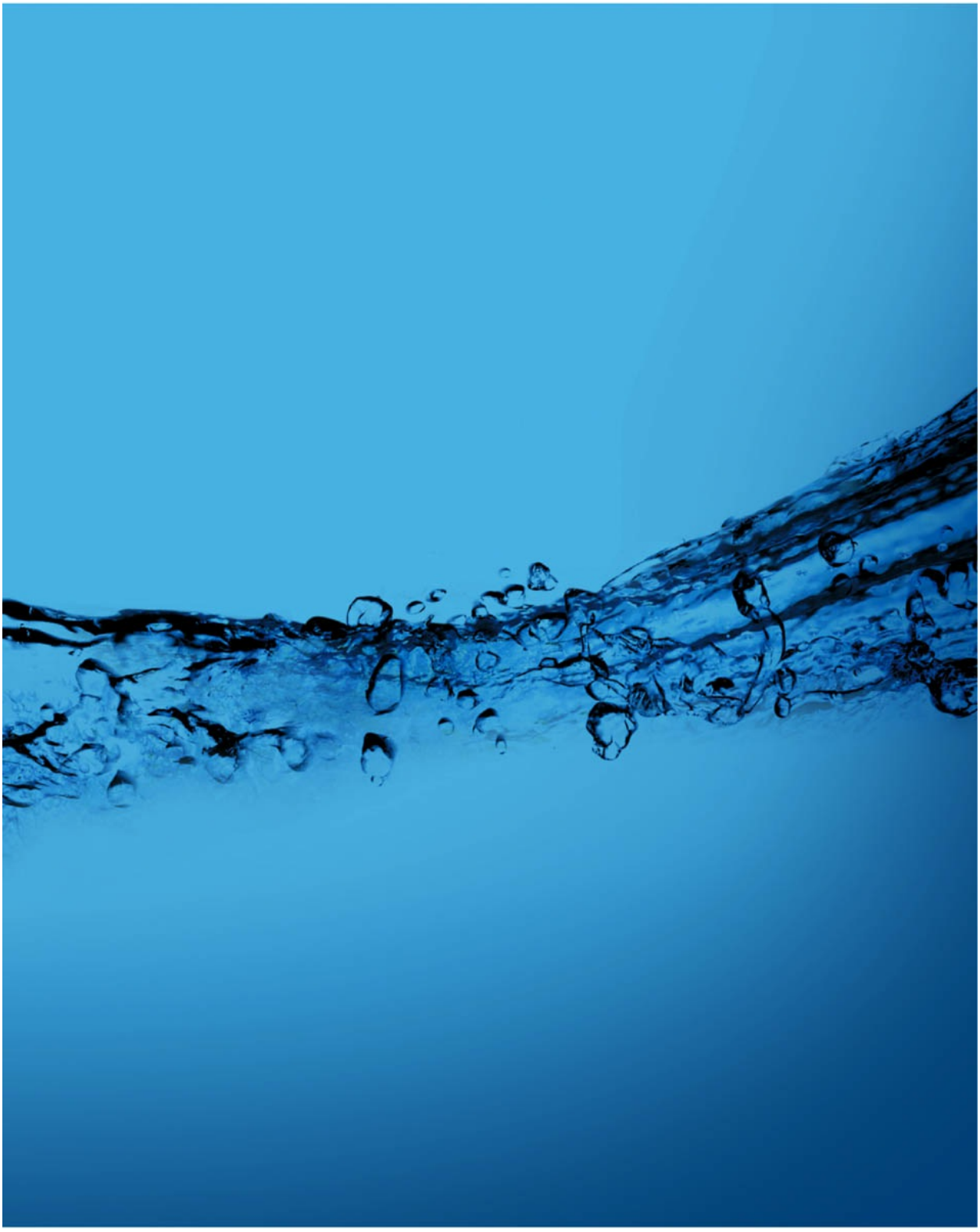
If you plan to use your bathtub for water storage, consider getting an insert that makes your tub watertight. I have a WaterBOB, a food-grade plastic bathtub insert that holds 100 gallons of water. You can fill it before a storm or at the announcement of any disaster. It takes about 20 minutes to fill completely and will keep water fresh for up to 16 weeks. If that is the only water you have, though, it will be gone well before that, so consider the WaterBOB an added insurance policy, not your only line of defense.

Additionally, you can fill very clean stock pots, canning jars, and any other food-grade container with tap water without treating it first if you plan to use it quickly. Large plastic storage bins, while not food grade, will give you extra water for washing or flushing.

CHAPTER 04

PLAN FOR LONG-TERM WATER USAGE

Think about alternative water sources. Make a simple water filter and test it out.



After you have taken care of your short-term water needs, your next task is to think about how you'd handle a longer-term water shortage. The sad truth is that the world is changing. Our systems are fragile, and things do fall apart. It is tempting to think that catastrophes happen to other people in faraway places, but more and more often we see a different reality. Families in Flint, Michigan, have been unable to drink the water from their taps for more than a year. In other places, water-main breaks from aging infrastructure have left people without potable water for many weeks. With that in mind, taking a wider view of our water vulnerability is a good idea.

ABOVE: *A rain barrel is a good way to store a large amount of water.*

There are five critical steps you can take to ensure your ability to meet your family's long-term water needs in a crisis.

1. **ASSESS YOUR RISK.** Each home has a different level of water vulnerability. Does your water supply depend on electricity? Do you live in a flood or an earthquake zone? Are you able to access surface water?

2. **PROTECT EXISTING SUPPLIES.** Should an earthquake or flood damage water lines or contaminate your municipal water source, you must prevent that water from flowing into your home and contaminating the water in your pipes or hot water tank. Locate the intake valve (usually in your basement) and learn how to shut the water off. You may need a pipe wrench and some strong muscle to turn it.

3. **LOCATE POTENTIAL SOURCES OF WATER.** Take a stroll around your neighborhood looking for other sources of water. You must always assume surface sources of water are contaminated even if they appear clean, but that does not mean you should rule any of them out. Now think about how you would get that water to your home. You would need vessels, of course, and possibly a wagon or handcart. Would you need a siphon to transfer the water to a bucket or perhaps a ladle or a smaller bucket? Water is heavy. A 5-gallon bucket weighs about 40 pounds, which would be too much for me to manage without a wagon or cart.

4. **EXPLORE RAINWATER COLLECTION.** If you live in an area of adequate rain and snowfall, consider collecting the water that drains off your roof. If you have a 1,000-square-foot house, you can collect about 620 gallons of water with every inch of rainfall. However, gathering the water that falls from the sky in the form of rain or snow is not as easy as putting out a bucket. To get water in a volume that will be useful, you will need to create a catchment system. This can be as easy as directing the water from your roof through gutters to a downspout and into a barrel. A fine

mesh screen will keep bigger pieces of debris out of your gathered water, but the water will still need to be treated before you consume it.

Note that in some areas of the country, collecting rainwater is restricted or prohibited, due to concerns about drought, water rights, or public health. Check the laws in your state before you set up a rainwater harvesting system.

5. **LEARN HOW TO PURIFY WATER.** You must treat all gathered water as potentially contaminated and learn how to treat it before consuming a drop. Lots of nasty things contaminate water. Biological contaminants like *E. coli*, *Giardia*, and *Salmonella* are common. *Vibrio cholerae* (which causes cholera), *Legionella*, and *Cryptosporidium* are also found in untreated water. Water from any above ground source may look clean, smell fine, and taste good while still harboring deadly pathogens. Even the purest-looking mountain stream may be polluted with animal or human feces or runoff from farms or upstream homes.

Water Purification Basics

Let's assume you are starting with a bucket of dirty water. The first step is to filter out the noticeable debris. Let the water sit until the sediment sinks to the bottom. While the water is settling, construct a simple water filter (see Make a Simple Water Filter). Ladle the settled water into your filter; pouring

will stir up the solids. The water that comes through the filter should look much cleaner than it did in the collection bucket. It may be necessary to run the water through the filter more than once. Now you can treat the water in one of two ways.

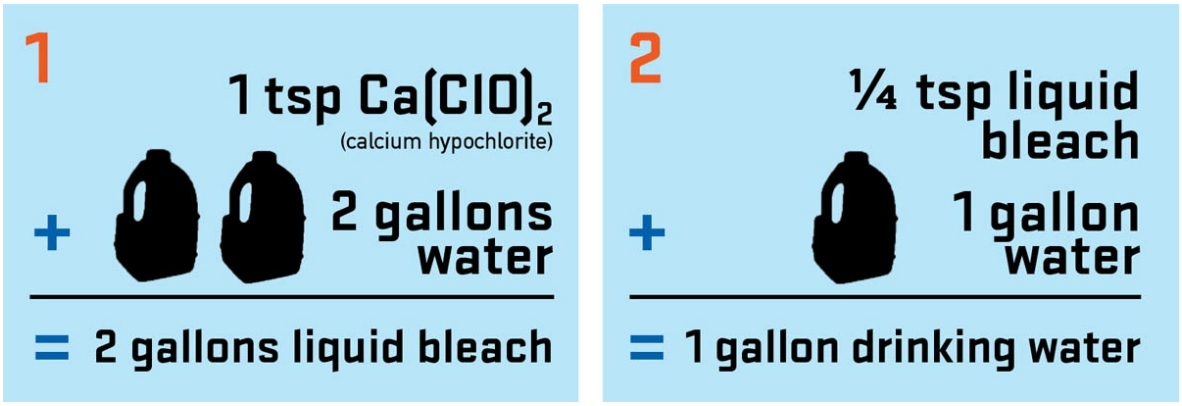
ABOVE: *Bleach is not easy to transport if you have to evacuate and there is the problem of its limited shelf-life. Water purification tablets are a bit more expensive, but they have a long shelf-life and take up very little space. Be sure to follow the package directions for optimal performance.*

BOIL IT. The safest way to treat water is to boil it. I have seen recommended boiling times that range from a low of 1 minute to a high of 10 minutes. One could err on the side of caution and go

with the 10 minutes, but if fuel is in short supply, you don't want to be wasting it on a task that doesn't need doing. Pasteurization occurs at 149˚F (65˚C). Water boils at 212˚F (100˚C), so any water that has reached the boiling point is pasteurized. This means that *Cryptosporidium*, *Giardia*, and other bacteria and viruses are killed. Let the water cool, and store it in as cool a place as possible.

Another drawback to using the boiling method, beyond fuel, is time. It can take a while to purify enough water for a large group of people, especially when the water must cool before you can consume it.

HOW TO MAKE DRINKING WATER



BLEACH IT. Some people prefer to use chlorine bleach for sanitation purposes. You must use plain bleach, not one with added fragrance. The recommended ratio is 1/8 teaspoon to 1 gallon water, if the water is clear. If the water is cloudy, you should double the amount. Unfortunately, bleach has a short shelf life. It is potent for only 6 to 12 months, so buy the smallest possible container and mark the purchase date on the outside.

One solution is to purchase calcium hypochlorite (sometimes called pool shock) in granular form from a pool supply company. As long as it is pure and contains no stabilizers, you can use it for sanitizing water. One heaping teaspoon of the calcium hypochlorite added to 2 gallons of water will make liquid bleach. This is *not* what you drink! This is the solution to add to your water to make it potable.

Adding 1/4 teaspoon of this bleach to 1 gallon of water will give you safe drinking water. Let any water treated with bleach sit for 30 minutes to ensure that all pathogens are dead. Exercise caution around the fumes, and store the granules in a cool, dry

spot. They have an indefinite shelf life, and just 1 pound will purify thousands of gallons of water.

As long as you are at a pool supply store anyway, you should pick up some pool test strips. This is inexpensive insurance to ensure that your drinking water has neither too much chlorine nor too little. The appropriate amount is 2 parts per million.

ABOVE: *pool test strips for checking chlorine levels*

A COMPLETE SYSTEM

There is one other option for purifying water that I want to mention. If you are really concerned about your water supply, you might want to consider a Big Berkey Water Purification System. Not only will this tabletop system filter out pathogens, but it will also remove heavy metals and chemicals as well as herbicides and pesticides. Big Berkey systems are expensive, but your $250 investment will purify 6,000 gallons of water using only two of the four possible filters. The filters can be cleaned and reused, and replacement filters can be stored as

well. The system uses no electricity (it's gravity fed). Note: There are some restrictions on where these systems can be shipped, so check with the company before ordering one.

MAKE A SIMPLE WATER FILTER

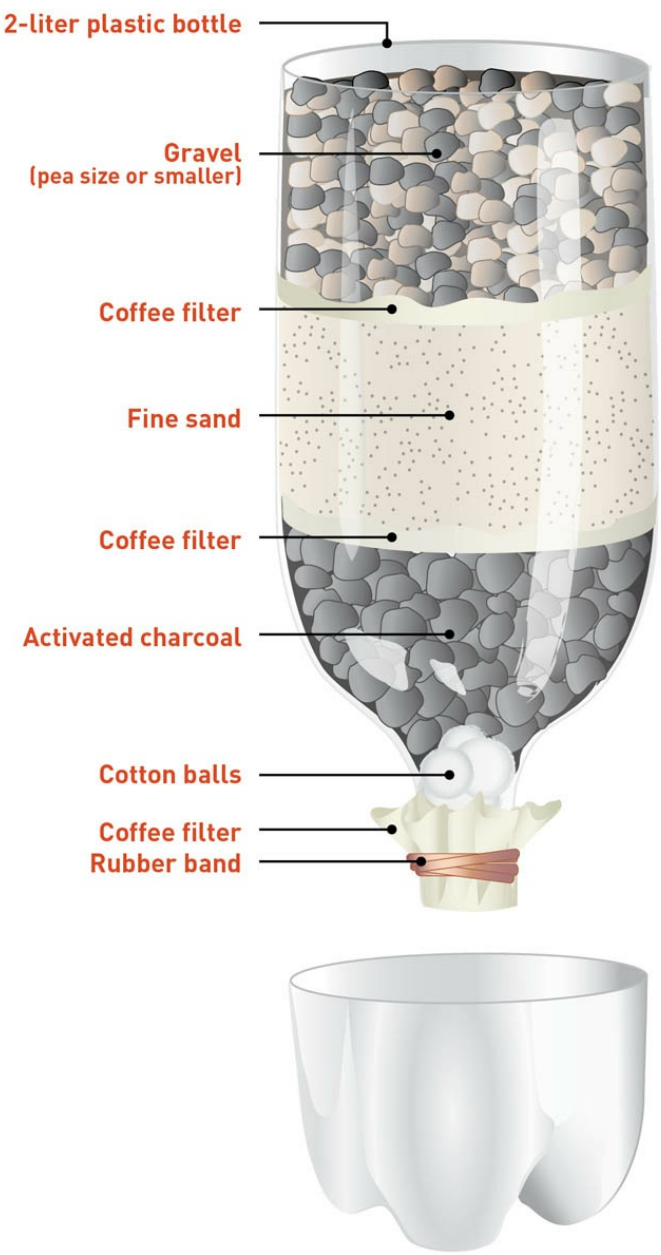
INSTRUCTIONS

Cut the bottom off the bottle. Remove the cap and cover the small opening with a coffee filter, held on with a rubber

band. Stuff the neck of the bottle with cotton balls. Layer with 3 inches each of activated charcoal, fine sand, and gravel, in that order, with a coffee filter between each layer. You can purchase all of the components from Amazon or, in small quantities, from places that sell aquarium supplies.

I must add a word of caution about the charcoal. It is terribly messy to work with. You will need to wear clothes you don't care about and latex gloves. A dust mask is a very good idea. Plan to work outside.

To use, position the filter like a funnel over a clean container and pour water in slowly. Add more water as needed to fill the container. You must still purify the filtered water before consuming it. When you see that the cotton balls are beginning to discolor, it is time to take apart your filter. You can reuse the sand and gravel, but replace the charcoal, coffee filters, and cotton balls.


2-liter plastic bottle
Gravel
(pea size or smaller)
Coffee filter
Fine sand
Coffee filter
Activated charcoal
Cotton balls
Coffee filter
Rubber band

CHAPTER 05

CALCULATE YOUR FOOD NEEDS

Figure out the minimum amount of food your family would need to cope with a three-day emergency, then check your stock of dried shelf-stable foods.

Before getting to the nitty-gritty of stocking your pantry, you must determine exactly what your food storage needs are. You must know how many people you are likely to be feeding and how long you're comfortable being prepared for. You should inventory what you already have and what you use regularly. There is no point in rushing out to buy a year's supply of pasta and tomato sauce if half your family doesn't handle gluten and the rest are allergic to tomatoes. The availability of water and your cooking options (see Learn to Cook in a Crisis) will play a part in your choices. Ask yourself these questions.

HOW MANY PEOPLE SHOULD I PLAN FOR? I have only myself, my husband, and my youngest daughter at home, so it seems reasonable to plan to feed three, but that number doesn't reflect my reality. I have 6 adult kids and 10 grandchildren. Any or all might be joining us depending on the circumstances. Think about the people who might depend on you. Are there elderly neighbors or close friends who might need shelter? Do your parents visit often? It is always better to err on the side of caution and plan for extra mouths to feed.

FOR HOW LONG? If your worst-case scenario is a three-day power outage, you probably have enough food on hand to muddle through. But if you watch the news, you might well feel that this is not long enough. I certainly don't. Your comfort level is individual. It's important to remember that even if you want to prepare for a much longer crisis, you can't do so overnight; you must approach the task in a systematic way.

WHAT DO WE CURRENTLY EAT? Are any family members vegetarian or vegan? Do you eat only organic or gluten-free food? Are there foods to which you or your family members are sensitive or that some of you just don't like? While you might be willing to eat nonorganic food in a crisis, you can't choose to eat food that makes you sick. Consider these things when calculating your food needs.

WHAT IS OUR INFRASTRUCTURE LIKE? If you have a woodstove or some other means of cooking at your disposal, you have a lot of leeway in what you store. But if you are relying on a camp stove, there are some built-in limitations; long-cooking dry beans are out, for example, and canned beans are in. If you have available water, you can consider some foods that are dried or dehydrated. With limited water, canned foods are easier to manage.

Understanding Food Terms

Food comes in a variety of forms. Apples, for instance, can be gathered or purchased whole, canned as sauce or pie filling, dehydrated, freeze-dried, or frozen in slices. Understanding the definitions will help you make good choices in spending your food dollars.

CANNED. Food can be either commercially or home canned. Many people like canned fruit just fine but are less satisfied with canned vegetables. Nutritionally, canned foods stack up well against fresh food, as so much of what is called fresh has spent a long time in transit and is not really fresh when you get it home. Few meats are available in canned form, although there is a good selection of canned seafood. The expiration date is generally one year from date of packaging, although most canned foods can be safely used long after the stamped date. Other than jams, jellies, and pickles, I don't use home-canned food unless I put it up myself or I'm certain the canner used appropriate practices. Improperly canned food can be deadly.

FROZEN. Frozen food is convenient, and the quality is generally excellent. The downside is obvious: Without power, frozen food is a huge liability. If you do rely on a freezer, you might consider freezer insurance if it's not already included in your homeowner's policy.

DEHYDRATED. You probably eat a lot of food right now that you don't think about as being dehydrated. Raisins, banana chips, and fruit leathers are quite popular. Dried food has most of the moisture removed to retard spoilage, and the shelf life is quite long if packed properly. You can dehydrate food at home, too. (See also Learn to Preserve Food.) Some foods are delicious in their dried form, whereas others need to be rehydrated to be useful.

FREEZE-DRIED. Freeze-dried food is flash-frozen at a low temperature; the ice crystals are then removed in a vacuum. It is possible to freeze-dry food at home with the right machine, but it isn't practical. The machine is large, expensive, noisy, and time-consuming. Unless the technology improves and the price comes down, home freeze-drying will appeal to very few.

It is possible to buy nearly all foods in freeze-dried form from specialty suppliers (see Resources). The quality is excellent. For vegetables, we prefer freeze-drying to almost any other preservation method. It's also the only way to have meat at your fingertips unless you can it yourself. Your options for available food cover everything from meats, fruit, and vegetables to butter, casseroles, and milk powder. The biggest benefit is a shelf life of 25+ years.

There are a few negatives to purchasing freeze-dried food. It is the most expensive way to acquire food. Although I have seen smaller sample cans at a few suppliers, most freeze-dried foods come in number 10 cans. (The weight and volume of a number 10 can will vary by the contents, but on average these large cans hold 109 ounces.) Once a can is opened, the food can pick up atmospheric moisture, so you need to use it within a few days. Also, beware of marketing claims. I have seen offers for freeze-dried food that promise a year's supply of food in one handy package. I have looked at a few and found these claims to be overstated; moreover, the cost can be prohibitive.

For most families, choosing a variety of foods preserved in different ways will be their best bet for providing enough calories, nutrition, and flavor to see loved ones through any crisis.

STOCK UP

As you shop each week, plan to pick up extra food for your storage pantry. I buy these 10 food items on most shopping trips. They all have long shelf lives and can easily be prepared in a variety of ways.

- Canned tomatoes
- Canned beans
- Canned fruit
- Rice
- Canned tuna and salmon
- Peanut butter
- Oatmeal
- Herbs and spices
- Coffee, tea, and hot chocolate
- Bottled or canned juice

CHAPTER 06

DESIGN A FOOD STORAGE PROGRAM

Explore how to put together a reasonable food storage program that can be expanded to fit the time frame you feel comfortable with.

An online search will lead you to dozens of books on emergency food storage and preparation. A quick search of my bookcase will show you that I own most of them. They run the gamut from books that promise gourmet meals from cans to one that relies entirely on freeze-dried food. Many detail how to store enough food to last a family for a year. As most families must work with budget and space constraints, not to mention picky eaters and the practicalities of cooking restrictions, a lot of

these books turn out to be less useful than one might hope. Still, there is something to be gleaned from most.

Start with a Week's Worth

The shortest time frame you should consider is one week. I consider this the bare minimum, but it will get you through an extended power outage. Once you have a week's worth of food put away, you can then aim for two weeks' worth and then add a few more days of meals at a time until you're comfortable with your storage. I can't imagine having less than a three-month supply on hand, and I keep closer to six months' worth myself. The food you will be putting away must be nonperishable,

meaning it doesn't need to be frozen or refrigerated and won't spoil at room temperature.

Learn to check for expiration dates on packaged food. An item that has passed that date might still be safe to eat. Many canned foods are good for several years, but the quality does begin to suffer. To avoid waste, rotate your food, always eating the oldest first.

As you begin this task, think about the meals your family now enjoys. Is there a way to prepare them using shelf-stable food? Are there meals you could get your family used to eating now? A crisis period is not the time to switch your children from Fluorescent Frosted Sugar Bombs to plain oatmeal. The following list is a good place to look for shelf-stable food that your family likely already uses and enjoys.

- Ready-to-eat canned meats, fruit, and vegetables

- Ready-to-eat instant cereals
- Meals-in-a-can like stews and hearty soups
- Dried meals in pouches
- Dried fruits, nuts, and seeds
- Canned juices
- Powdered, canned, or shelf-stable milk
- Instant potatoes, pasta, and rice
- Staples like sugar, salt, herbs, and spices
- Just-add-water baking mixes

Some of these foods need water for preparation, so you will need to add that amount of water to your storage. Not included but very important are comfort foods and beverages. Coffee, tea, hot chocolate, and other treats will help normalize your experience and lift everyone's mood. While it is far less expensive to buy bigger sizes, you do not want to be dealing with leftovers if your refrigerator is not working, so single servings might be a better choice. Individual condiment packets will be less difficult than big jars of something like mayonnaise.

Using Your Stores

Now let's explore how your stored foods can be used during an emergency. With just a supply of these foods in your emergency pantry, you can make a number of meals. Try some of these. (See also Plan a Day of Emergency Meals.)

- **BREAKFAST:** Oatmeal and fruit, pancakes and fruit sauce or syrup, or granola

- **LUNCH:** Tuna fish and pasta salad, macaroni and cheese, or hearty soup and crackers
- **DINNER:** Rice and beans, chicken in gravy over potatoes with canned vegetables, or salmon patties with rice and canned vegetables

Include juice, shelf-stable milk, coffee, and tea to drink. All of this food is readily available, and none of it is very expensive. These are also foods that often go on sale or can be purchased in bulk.

The downside of this menu is that it doesn't include any fresh vegetables or much fiber, and some of it is heavy on salt. Still, if you are looking at a jumping-off place for an emergency food pantry that won't send your children heading for the nearest soup kitchen, this will work. If you are thinking about longer-term storage (two weeks or more), you must keep other things in mind.

Properly stored, these foods will keep nearly forever: dried beans, white rice, most grains, popping corn, powdered milk, baking powder, baking soda, pure vanilla extract, vinegar, soy sauce, honey, maple syrup, corn syrup, sugar, salt, cornstarch, hard liquor, and Dutch-processed cocoa.

ON THE BOOKSHELF

If you find yourself wanting to learn more about food storage, check out my top 10 favorite books.

- *100 Day Pantry: Quick and Easy Gourmet Meals*, by Jan Jackson
- *Apocalypse Chow: How to Eat Well When the Power Goes Out*, by Jon Robertson with Robin Robertson
- *Cooking with Food Storage Made Easy*, by Debbie G. Harman
- *Cookin' with Home Storage*, by Peggy Layton and Vicki Tate
- *Food Security for the Faint of Heart: Keeping Your Larder Full in Lean Times*, by Robin Wheeler
- *I Can't Believe It's Food Storage*, by Crystal Godfrey
- *Independence Days: A Guide to Sustainable Food Storage & Preservation*, by Sharon Astyk
- *Making Home: Adapting Our Homes and Our Lives to Settle in Place*, by Sharon Astyk
- *Store This, Not That!: The Quick and Easy Food Storage Guide*, by Crystal Godfrey and Debbie Kent
- *Survival Mom: How to Prepare Your Family for Everyday Disasters and Worst-Case Scenarios*, by Lisa Bedford

CHAPTER 07

STORE FOOD FOR THE LONG TERM

Create a space for long-term food storage, and prepare an inventory control document.

When you buy a week's worth of groceries, consume them, and then go shopping again, you don't have to worry too much about how you store your food. But when you are buying food that will be held for many weeks or even months, how you package and store it matters. Food has enemies, such as dampness and insects, that affect its quality and palatability. Protecting your food from these enemies will help it last a long time.

PESTS. Pantry moths, weevils, mice, and rats can all be attracted to your pantry storage.

MOISTURE. Dampness will cause flours to cake and dried food to become limp. It can cause mold, particularly on sweet foods, and it can harden sugars. Moisture will eventually make cans rusty and cause home-canned food to lose their seals.

LIGHT. Too much light will fade herbs and rob them of vitality. It can destroy some nutrients and exacerbate the growth of algae in water.

HEAT. The length of time you can keep food decreases as the temperature rises. That said, food is more adversely affected by dramatic temperature changes than it is by steady high temperatures.

OXYGEN. Oxygenation causes unpleasant changes to food. Even if it's still edible, the oxygen-affected food will look odd and will not taste good.

PANTRY TIPS

- Store like items together with the labels facing out.
- Place newly acquired food in the back so that you will use the oldest first. It helps if you can load from the back and pull from the front.
- Store heavy buckets, cans, and jars on the bottom shelves and lighter boxes higher up.
- Be sure your stores are not placed right to the edge of a shelf where there is a danger of their being knocked off.
- Keep a pad and pen nearby to make notes of what needs to be replenished when a good sale comes up.

Take these steps to protect your food investment.

CHOOSE YOUR CONTAINERS. The first step in protecting food is choosing appropriate containers. The best containers are glass or food-grade plastic. They need to be clean and completely dry before you pack them with food. If I'm washing a vessel and want to pack food right away, I dry it with a hair dryer or set it in a warm oven to ensure that no moisture remains. If you use non-food-grade plastic, line it with a Mylar bag or other sturdy, food-grade plastic liner.

PREPARE YOUR FOOD. When I buy flour, grains, or beans, I put the entire container in my freezer for several days to kill any eggs or bug larvae that might be present. After freezing, I repack boxed mixes, like pancake mix, in a mason jar. This is especially

important if mice are a problem. I write down the recipe and put it on a card inside the jar.

LABEL YOUR FOOD. You don't need to get too fancy with labels. It's enough to add a strip of masking tape with the contents and expiration date, along with any special instructions. You might think you'll remember what that white powder in the mason jar is, but in three months you won't be able to tell if it's pancake mix or bread mix.

KEEP AN INVENTORY. If you don't keep too much storage, you might get away without an inventory. But once you see how much more convenient and inexpensive it is to buy in bulk and store food, you might find that having a way to track your food is important. Again, the inventory need not be fancy. A simple notebook that you keep in your kitchen will suffice, or you can download a spreadsheet from the Internet.

ROTATE YOUR STORAGE. I can't stress storage rotation enough. Use your food! In an emergency, you don't want to be dealing with food that is stale or unpalatable. Eat and replace, eat and replace. Your food will stay fresher, and eating from your pantry will just be what you do.

How long will your food last? There are many variables here. If you have a dry, cool storage area and package your food properly, it will have a long shelf life. My own plan is to rotate through my food every year so that I know what I offer my family is fresh and wholesome.

STOCK UP

As you acquire food for long-term storage, you will also need to stock up on the following supplies. Check out thrift

stores for good deals on storage cabinets. I found an old hutch for $25. It now holds a good deal of canned food.

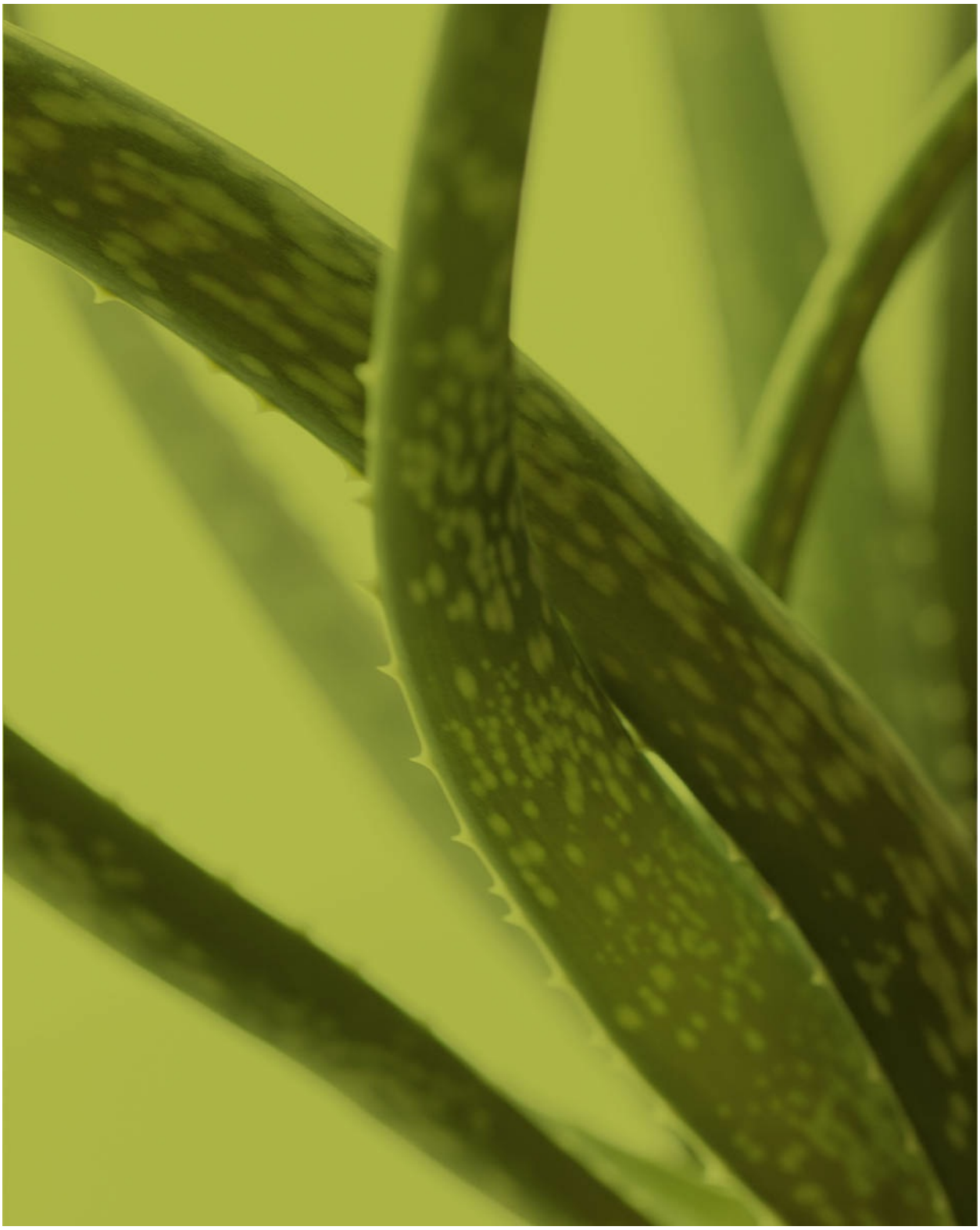
- **½-GALLON CANNING JARS WITH CLEAN LIDS.**
- **FOOD-GRADE STORAGE BUCKETS.** Unless the label says that a bucket is food-grade, assume it is not.
- **SCREW-DOWN LIDS.** Food-storage buckets come with snap-on lids, but they are a challenge to remove every time you need a cup of rice. Screw-down lids (a common brand is the Gamma Seal, made by U.S. Plastic Corp.) come with a gasketed ring that fits over the rim of the bucket and an easy-to-grip lid that then screws on and off. They are a bit expensive, but they will make your life a lot easier.
- **RUBBER MALLET.**You need a rubber mallet to attach a Gamma ring to a bucket and to properly seal regular lids on large food-storage buckets.
- **LID LIFTER.** If you don't use screw-down lids, you will need a lid lifter to take off lids that have been pounded on.
- **MYLAR BAGS.** Bags made of the polyester film Mylar will keep out light and oxygen and protect food from insect infestation. You can seal the bags by ironing them shut or using a vacuum sealer.
- **VACUUM SEALER.** You can purchase a vacuum sealer and a supply of bags in most department stores. The unit removes the air from a bag and then seals the end. There are attachments that remove the oxygen from canning jars. The bags can be reused if they have held only dry ingredients.

- **OXYGEN ABSORBERS.** Oxygen absorbers (small packets that contain an iron powder) added to any sealed container will remove excess oxygen and aid in keeping food fresh.
- **INDELIBLE MARKERS.** It's important to label all food containers. You might think you will remember what you packed in that bucket. You won't.

CHAPTER 08

BUILD A FIRST-AID KIT

Create a first-aid kit or upgrade your existing one. Signing up for a class if you have never taken one is a good idea, too.



Dealing with a crisis can be hard on your body. Sleep is often disrupted, and a large number of people may be packed into tight quarters. Meals could be erratic and not what you're used to. It might be hard to stay as clean as you would like. Stress alone is enough to compromise your immune system. All of this adds up to the possibility of illness complicating an already challenging situation. Catching a bug or developing an infection will not be the only thing to worry about. If you have debris to clean up, snow or ice to remove, or home repairs to make, injuries are a real possibility, even if none were sustained during the actual event.

NOTE: This section is not intended to replace a first-aid manual or class, and it's well beyond the scope of this book to provide medical advice. The idea is for you to think about what supplies might be necessary to have on hand and start building or refurbishing your own home first-aid kit. A large tackle box works well, and the design makes good use of space. Choose a cabinet away from heat and moisture (not right over your dishwasher) for a medication depot, and begin to stock it. (See also Check Your Car.)

ORAL REHYDRATION FORMULA

While children, the elderly, and anyone who is medically fragile are the most at risk, dehydration can be fatal for anyone if severe enough. Having a supply of oral rehydration therapy on hand and knowing how to administer it could be lifesaving.

For a homemade version, mix the ingredients below.

It tastes pretty awful, but sip it slowly to replenish your body's electrolyte balance after a bout of gastrointestinal illness.

STOCK UP

- Burn ointment
- Oral rehydration therapy
- Antinausea and antidiarrheal medication
- Constipation relief
- Heartburn relief
- Pain relievers and fever reducers
- Cough suppressants
- Nasal decongestants
- Antibiotic cream
- Antifungal cream

- Antihistamine ointment
- Waterproof bandages in many sizes and shapes *(cheap ones usually aren't worth the savings)*
- A sling and an elastic bandage or two
- Tweezers for removing splinters
- A pair of sharp scissors
- A digital thermometer
- Cotton swabs and cotton balls
- Isopropyl alcohol and/or peroxide
- Medical tape and gauze pads
- A couple of thick sanitary napkins for compresses

Learn First Aid

Every adult in your home should have some basic first-aid training and understand how and when to administer cardiopulmonary resuscitation (CPR). You can get the training through the Red Cross, the American Heart Association, or your local fire department.

It's not a bad idea to take a neighborhood inventory to see who can help in a medical emergency. Are there doctors, nurses, emergency medical technicians (EMTs), or other health care providers you can call on? You won't have access to the big-box pharmacy if the lights are out, but maybe there is a chiropractor or a physical therapist who can help if you wrench your back shoveling snow.

If you take regular medication for a chronic or life-threatening condition, talk to your prescriber about having an extra month's supply on hand at all times. This includes inhalers for asthma sufferers. Don't wait until the last day to do refills; order them as soon as possible. Another idea is to put away one or two doses every month; if you can do this, your supply will add up eventually. Of course, you must keep an eye on expiration dates and rotate the doses to keep them up to date.

Stay on Top of Dental Issues

There is not much worse pain than a toothache. Being diligent with your oral health and seeing your dentist regularly goes a long way to heading off big problems that could arise when access to dental care is limited. Pharmacies sell dental kits that will provide temporary relief for a broken filling. My dentist is not a fan of temporary fillings, as they must be drilled out later, but in an emergency a temporary filling is better than an

exposed nerve. Topical pain relievers containing benzocaine, such as Orajel and Anbesol, can provide some relief to sore gums.

GROW AN ALOE VERA PLANT

A good project is to start an aloe vera plant. The gel is wonderful for the treatment of minor skin abrasions and burns, including sunburns. If you have a friend with an aloe vera plant, ask for a division. This is best done in spring or early summer, when the plant is actively growing.

- Move the soil away so that you can see where the offshoot attaches to the parent plant. You can cut the small plant away from the parent, but pulling the two apart is less likely to cause damage.
- Allow the offshoot to heal over (uncovered) for a few days before replanting it.
- Choose a clean clay pot, and cover the bottom hole with a clay shard. Layer sand, compost, and another layer of sand in thirds to fill your pot.
- Place the new plant in the sand and tamp down firmly, but do not water for two weeks.
- Once the plant is established, you can water weekly in summer; however, discontinue watering it in winter.
- Your aloe vera plant should live for years and won't be injured by the occasional cutting of a fleshy stalk to extract the gel.

ON THE BOOKSHELF

There are some excellent books that prepare you to care for your family if you don't have access to traditional medical care. The following are my favorites.

- *The American Red Cross First Aid & Safety Handbook*, by American Red Cross and Kathleen A. Handal
- *The Survival Doctor's Complete Handbook: What to Do When Help Is NOT on the Way*, by James Hubbard
- *The Survival Medicine Handbook: THE Essential Guide for When Medical Help is NOT on the Way*, 3rd ed., by Joseph

Alton and Amy Alton

- *Where There Is No Dentist*, by Murray Dickson
- *Where There Is No Doctor: A Village Health Care Handbook*, rev. ed., by David Werner with Carol Thurman and Jane Maxwell
- *Where Women Have No Doctor: A Health Guide for Women*, updated ed., by A. August Burns, Ronnie Lovich, Jane Maxwell, and Katharine Shapiro

CHAPTER 09

BUILD A BASIC TOOL KIT

Collect whatever tools you have on hand. Add to your collection as necessary, and determine a handy storage location.

This section is not written for the competent repair people out there. It's written for the rest of us because, male or female, whether you live in a city apartment or a country retreat, you need a tool kit and some basic maintenance skills as part of your crisis mitigation plan. Keep in mind Murphy's law: If something can go wrong, it will — and it will do so at the most inconvenient time. Having a well-equipped tool kit allows you to make simple repairs yourself at a time when a quick fix can save you big headaches down the road.

Many of us (myself included) know very little about home repair. Here we have our most critical investment — the roof over our heads, our shelter from the storm — and most of us have no idea

how its systems work. Water and electricity flow in. Wastes flow out. How these things happen is a mystery.

Our most important tool is information, so I suggest that you start by building up your library. There are dozens of good books to choose from. I lean toward volumes that are heavy on illustrations, as I'm a visual learner.

The books listed below are a good start, but you also need a few tools. I'm not suggesting anything outlandish here, just what you need to make basic repairs. I do suggest buying good-quality tools. Cheap tools are not just ineffective — they can be dangerous. It's better to buy quality secondhand pieces than new but flimsy ones.

Even if you can't use a particular tool yourself, you will have it for others to use on-site. Home repair is like any other skill: You can get better with practice. If you have a contractor working on home repairs, keep an eye on what's happening. You may be able to pick up some valuable tips. (See also Prepare Your Home.)

Set aside an area in your basement or garage for home repair. Keep your tools organized and in good repair. If you live in a neighborhood, look into starting a tool exchange for bigger, more expensive, but less frequently used tools. Invest in a label maker or some other way to identify your own tools and keep track of any tool you borrow. A friend will be much happier to loan you his or her best hammer if you return it promptly and in good condition.

ON THE BOOKSHELF

- *The Complete Photo Guide to Home Repair*, by Black & Decker
- *Dare to Repair: A Do-It-Herself Guide to Fixing (Almost) Anything in the Home*, by Julie Sussman and Stephanie Glakas-Tenet
- *How Your House Works: A Visual Guide to Understanding and Maintaining Your Home*, by Charlie Wing

ESSENTIAL TOOLS FOR EMERGENCY HOME REPAIR

- Tape measure
- T-square
- Pipe wrench
- Bungee cords in several sizes
- Pump Pliers
- Glue of all types
- Claw hammer with a metal shank and rubber grip
- Miter box
- Caulk
- Tape: masking tape, electric tape, and lots of duct tape!

- Adjustable wrench
- Screwdrivers: slot (or flat) head and Phillips head
- Nuts, bolts, screws, and nails in a variety of sizes
- Zip ties in several sizes
- Crosscut saw and hacksaw for metal
- Level
- Work gloves
- Safety goggles

I have not included any power tools in this list. If I could have only one, however, it would be a power drill. It holds a charge for a long time and can save hours of labor and lots of blisters.

CHAPTER 10

STOCK UP ON BATTERIES

Determine what kinds of batteries you need for different devices and set up a battery station with duplicates of every type.

We rely on batteries for so much, especially in terms of preparedness. Flashlights and radios, phones and computers, and many other devices need some sort of power. When that power doesn't come from the grid, it is usually stored in batteries. Not that many years ago, our options were limited to disposable alkaline batteries. These were an environmental disaster, however, and that fact led to innovation. We now have many different kinds of batteries to choose from, all with positive and negative attributes (no pun intended!). Let's walk through our options.

BATTERY HACKS

There are a lot of battery hacks on YouTube that show how to take batteries apart to mine for smaller batteries or extend the size of smaller batteries with aluminum foil. While this may work in a pinch, it's probably better just to stock up on what you really need to get the most power for the best price.

A Few Battery Facts

Batteries should be stored at room temperature. You may have heard that storing them in the freezer will prolong their life, but that's not true. Store them in original packaging. Don't leave any loose batteries banging around in a box. It's a fire hazard to have them touching one another. If you have a pair of batteries and

one has discharged but the other still has some charge, dispose of both. Don't mix old and new or even different brands.

Types of Batteries

Make a list of all the devices in your house and car that need batteries, noting what type and how many are required.

ALKALINE, DISPOSABLE. You can still buy these, and they work well, but disposal is a problem. They should not be thrown in regular trash. Many landfills have collection days. The cost mounts up, as it does with any single-use product. In my experience, cheaper brands generally discharge quickly.

ALKALINE, REUSABLE. You can't recharge reusable alkaline batteries as often as you can recharge some of the newer models, but they do have a reputation for holding a charge longer than some others.

NICKEL-CADMIUM (NICD). NiCd batteries are the oldest type of rechargeable batteries. They have a long shelf life, which works well for preparedness plans. They also charge quickly and can be recharged many hundreds of times. The flip side is that they lose power quickly, even when not in use. Older NiCds had a charging memory. If they were only partly used and you recharged them, the battery "remembered" that and would only recharge that much the next time, so you had to let them discharge fully before recharging. That problem has been addressed in newer batteries.

NICKEL–METAL HYDRIDE (NIMH). NiMH batteries lose less charge than others when not in use, so they are more likely to work when you need them.

BUTTON BATTERIES. These little batteries are in everything, it seems. You can't recharge them, so keep a supply on hand. Bear in mind that they are tiny and easy to swallow. They are deadly for small children and animals to ingest, so store them securely.

Battery Testers

Have you ever looked at a jumble of batteries and not known which were good and which needed to be disposed of? I certainly have. A battery tester is a simple little gadget that allows you to

test your batteries for charge. It's well worth the price just to avoid the irritation that comes from trying batteries in a flashlight one after the other.

Chargers

There are a lot of chargers to choose from. Be certain that the charger you buy matches the batteries you have; some are not interchangeable. Intelligent chargers can read the battery and stop charging when the battery is full. A smart battery has a chip in it, as does the compatible battery charger, so they work only with each other. Some chargers rely on 110-volt power from your home, whereas others can recharge with 12-volt power from your car cigarette lighter or a solar charger. We found that the solar charger worked well in summer, but we needed another option for the short days of winter.

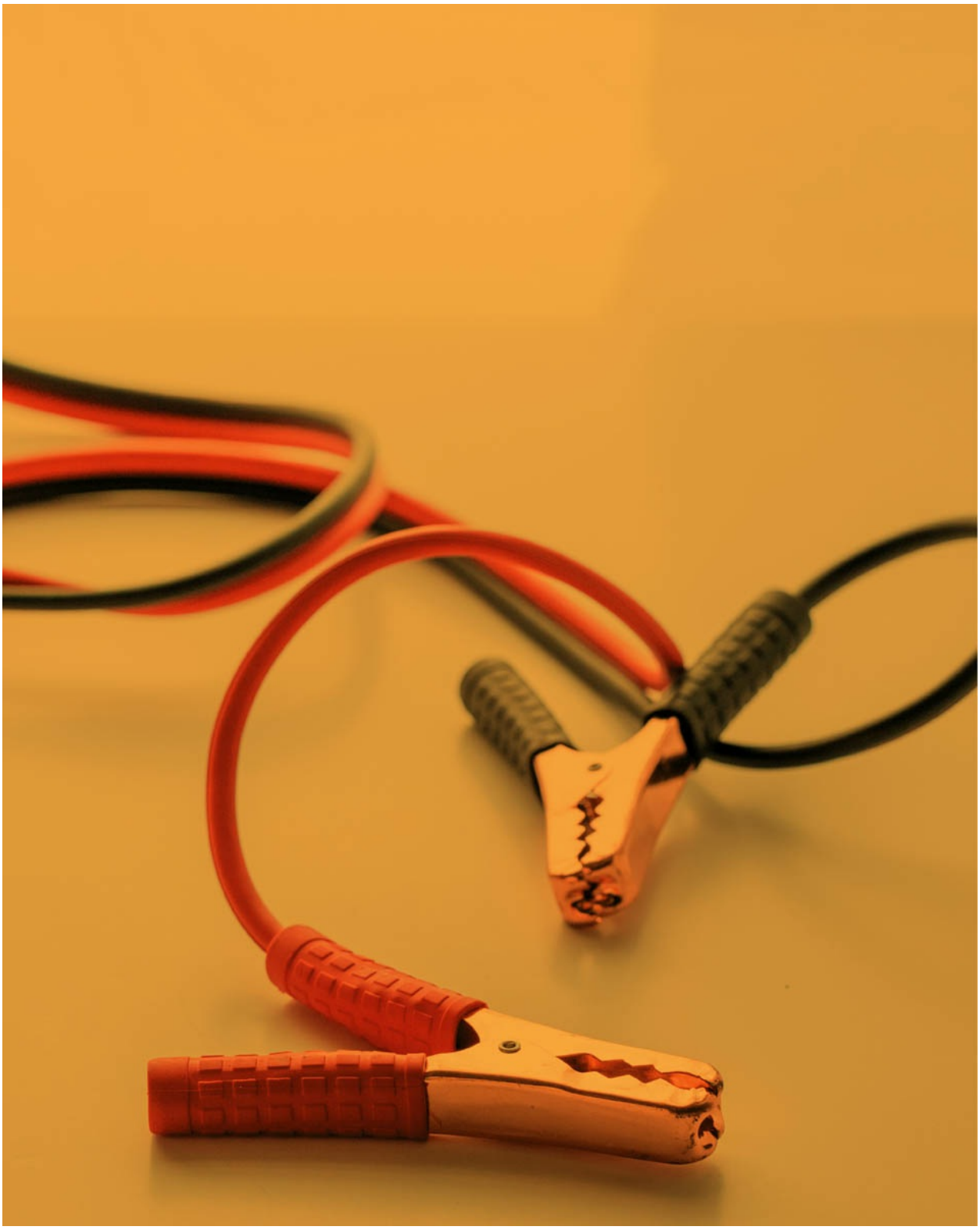
Figuring out your battery needs will require some research to determine what option is best for your situation. Once you decide, designate a battery station for your home. You want a good selection, all fully charged, if you lose power: 9-volt, A, AA, AAA, C, D, and button batteries in various sizes. Batteries are something I always buy in bulk from big-box stores.

ABOVE: *battery charger*

CHAPTER 11

CHECK YOUR CAR

If regular car care isn't already part of your routine, start there. Put together a survival kit for each vehicle.



"Washington Family Stranded in Car Survives Two Days on Halloween Candy"

"Family Spends Freezing Night after GPS Directions Leave Them Stranded"

"Stranded in Snow, Travelers Camp in Cars and Make Do"

A quick Google search will turn up dozens of stories like this. People head out for a routine trip, and things fall apart. Cars break down. The global positioning system (GPS) device is wrong. The forecast was too optimistic. The road is closed. Having a prepared car can save your life.

Being prepared for travel is an area where discretion really is the better part of valor. If the forecast is bad or even iffy, stay home if you can. Unless you need a kidney transplant and the doctors have suddenly found a donor for you, staying put is usually your best option. If you do have to head out, be sure someone knows where you are going and when to expect you. On longer trips, leave an itinerary and don't deviate without letting someone know. If you don't show up, the person who knows your itinerary will know where to look for you.

The most important preparedness tip is to take good care of your car. In an emergency, it might be your home away from home for a few days. Keep up on the routine maintenance, and

don't ignore the service lights. Check the volume of windshield wiper fluid, replenish other fluids before you run out, and keep the oil changed as required. Also know how to change a flat, and make knowing how a prerequisite to your kids getting their driver's license.

Be sure to replace your tires before they are too worn, and get the best you can afford for the kind of driving you do. That means studded snow tires in winter if going out in foul weather is routine for you, and it means high-quality winter wipers to keep your field of vision clear.

KEEP A FULL TANK

Always fill your tank when it hits the halfway mark, and begin any long trip with a full tank. You can also keep a few extra gallons of gas in your garage or an outdoor storage shed, but only in approved containers kept away from any heat source or combustible materials. Adding a fuel stabilizer will extend the storage life, but read all directions carefully before using one.

Make a Kit for Your Car

Put together a personalized emergency car kit. It should reflect your location, the season, and your driving habits, and it must be large enough to meet the needs of all your usual passengers. If

you rely on life-saving medicine, keep a few doses in your glove box and rotate it frequently.

If you travel in remote areas, you will want a more extensive emergency kit. It should include a sleeping bag and one or more flares, more food and water, and perhaps a water bottle with a filter, such as the Katadyn. You will want a backpack on the off chance you need to walk out.

Here's what I keep in my car.

Car repair supplies: at the very least, jumper cables, duct tape, and some hose repair clamps

A good spare tire

Paper maps in case GPS fails you

Flashlights

A first-aid kit & medicine

Nonperishable food such as dried fruit, nuts, and granola bars (rotate often)

Matches

Cell phone charger

Walking shoes

A send help sign

Highway warning signs

A roll of toilet paper

An empty gas can

A couple of plastic garbage bags

A book or handheld game (in case of a long wait)

If You Become Stranded

In most situations you should stay with your vehicle. It's a lot easier to find a car than a person, and the car will protect you from the elements. If a friend or family member knows your planned route and expected arrival time, help is likely to come should you run into a problem. Leave a visible sign that you want to be found. A bright piece of clothing on a long stick will do.

In cold weather, run your engine as briefly as necessary to warm up the car, but be sure the exhaust is cleared first. Crack the windows so that moisture doesn't build up. Stay in your vehicle. To avoid lowering your core body temperature, don't eat snow if you get thirsty; melt it first if possible. Keep dry. You can stay warm under a blanket if you're dry; you risk rapid hypothermia if you're wet. If it's hot and sunny, find some shade near your car. Stay as hydrated as you can.

If you are stranded in a public location, call for help and then stay in your car with the doors locked. If approached by a stranger, don't roll down your window or get out of your vehicle.

Ask the stranger to send for a police officer or a tow truck. Most people are kind and want to help; however, “most people” is not every person, so you need to be cautious.

Think about Alternative Transportation

Most of us in the United States are so car-centric that it’s nearly impossible for us to anticipate managing without access to our vehicles, but there are a lot of scenarios in which using a car might be impossible. Some disasters might leave roads impassable: Earthquakes can buckle highways, tornadoes can leave streets covered with debris, and ice and snow from winter storms can close roads. Other events might leave you with no way to get gas. Deliveries might be interrupted, or power outages might prevent electric pumps from working.

Buy a Bicycle

Even young children can ride a bicycle or be pulled behind one. Panniers and baskets allow you to carry a fair amount of supplies. A bike trailer increases your carrying capacity even more. Such trailers come in a range of prices and can easily be found secondhand. If you have the room to store one, it could come in handy.

Used bikes are readily available if you are watching your budget. Look for a bike that is rugged, and keep a bicycle repair kit on hand. Racing bikes with narrow tires are fast but not appropriate for rough use. A mountain bike or hybrid model will suit better.

What about Walking?

As part of the planning process, give some serious thought to foot care. Add some moleskin, bunion cushions, and foot powder to your supplies. Having a good supply of appropriate socks is inexpensive insurance. Wet feet are subject to blisters and fungal infections, so keeping your feet dry and comfortable is key.

A good pair of sturdy shoes or hiking boots is a necessity if you wind up needing to do much walking. Break them in slowly to avoid blisters. (See also Take Care of Your Head, Hands, and Feet.) For preventing falls when walking on icy roads, you can invest in devices that slip over shoes or boots and grip the ice via sharp cleats or wire springs. I keep one pair in my car and several pairs at home. Ice grips last longer if you rinse them off after use and dry them well so they don't rust.

Walking any distance is made easier if you are in the habit. Including a walk in your daily activities will increase your

stamina and comfort. Carrying a walking stick or a ski pole is a good idea if you must go out on bad roads. It can help you keep your balance, test the depth of standing water, move debris out of your path, or even fend off an animal.

Transporting Goods

When thinking about how you will get around, also think about how you will transport goods. Suppose you need to transport water. It's heavy, so some means of conveyance will be helpful. A wagon, cart, or sled will work. If you must walk and carry a child, a sling or carrier will be invaluable.

A good backpack is handy for carrying goods from place to place. Getting the proper fit for a backpack is important as is being fitted for good hiking boots.

EMERGENCY SUPPLIES

WARM WEATHER

- Water bottles (replace frequently)
- Sunscreen
- An umbrella (provides shade if you're stuck on the side of the road in the heat)

- Bug repellent
- A ground cloth or picnic blanket
- Rain ponchos

COLD WEATHER

- Space blankets
- A wool blanket
- An emergency heat source and matches
- Fold up shovel
- Kitty litter or sand for traction

CHAPTER 12

PREPARE YOUR HOME

Take a good look at your home with loving but realistic eyes. Start thinking about improvements that would serve you well in a crisis.

OVERCHARGED

In a sense, this section seems redundant. After all, this entire book is about preparing your home. But this section will task you with going more deeply into your most valuable asset — and by valuable, I am not referring to money.

When I have been away for a few days and am returning home, I can feel a knot in my stomach start to unwind as I enter the driveway, and peacefulness surrounds me when I walk through the front door. My house is not the fanciest one on the street. It certainly isn't the most fashionable. I don't have granite countertops or imported-tile floors. The cabinets could use a good scrubbing, and the den would benefit from a coat of paint. The furniture is best described as "cozy," and there are often half-finished science projects instead of flowers in the middle of the kitchen table. The mudroom is generally muddy, and the living room is lived in. For all its faults, though, it's home. I can't imagine anyplace else suiting me as this place does.

Our homes are so much more than investments. They are our shelter from storms, both climatic and emotional. From a preparedness standpoint, the advice to "bloom where we are planted" makes sense. Here are some things to look for and some questions to ask as you check out every aspect of your living space.

Step Outside

HOW IS THE UPKEEP? Are there broken steps or rotting boards on the back porch? What shape is the roof in? Is your yard tidy, without a lot of stuff lying around that could become dangerous projectiles in a strong wind?

WHAT ABOUT LANDSCAPING? Are there any large trees with limbs that might come down on your roof or cars? Do you have a large lawn? Is grass that must be watered, fertilized, mowed, and raked the best use of the space or would it be better to put it to use growing food? Is there a spot for a fruit tree or some berry bushes?

Now for the Inside

What do you know about how your home operates? Do you know how the power and water flow in and waste products flow out? Look at the wires and meters and pipes. Do you know why they are there and how they function? If you don't know, ask someone who might. Contractors and maintenance workers are good resources. In this general inspection be aware of things like lead paint and frayed wiring. We have talked a lot about external crises, but most family catastrophes are personal. More people lose homes to fires than to floods or tornadoes. Faulty wiring is a bigger risk than earthquakes are.

Begin in the Basement

Do you know where your circuit breakers are and how to reset one that has tripped? If you still have a fuse box instead of updated wiring, this is a place to consider an upgrade.

Check out your water heater. How many gallons of water does it hold? Does it have an electric pilot light? Will it operate in the absence of electricity? Do you know how to drain the water from it?

Examine your furnace. What fuel does it use? Do you have multiple sources for supplying that fuel? Whom do you call if your furnace stops working? Is your ductwork in good shape?

Does the basement leak when it rains? If so, how do you deal with it? Do you have a sump pump? If so, what happens if the pump stops working?

Are any pipes leaking?

Move Upstairs

Do you have smoke and carbon monoxide (CO) detectors in appropriate locations? Are your fire extinguishers current?

Are there cold spots that would indicate heat loss? Do your windows leak cold air in and warm air out?

Do you have at least two means of egress? Are any doors blocked with clutter or furniture? Is there at least one fire ladder near a window?

How is the security? Are the locks sturdy and the doors insulated?

Look under all sinks. Is there a problem with moisture or evidence of rodents? Do the walls in any bathrooms feel spongy? Do you see mold?

Go to the second floor and perform a similar inspection. Does everyone who sleeps upstairs know how to get out if the smoke detector goes off in the night? Are the floors clear of clutter that would block the path to safety?

On to the Attic

Is the attic well insulated? Is there any evidence of water damage, especially around chimneys and windows? If you have a mouse problem, there will be signs up here. (See also Keep Pests at Bay.)

Make a Plan

Now it's time to make a mitigation plan. Before you update your home for style, you must address health, safety, and efficiency. Many communities have grant programs to help seniors or low-income families make needed repairs. Community Action Commissions are a good place to look for these grants. Some churches offer help to members and nonmembers alike. Show your home some love. It will repay you over and over.

A FIRE EXTINGUISHER ON EVERY FLOOR

As part of your inspection, determine good locations for fire extinguishers. The obvious places are near the kitchen stove, next to any woodburning stoves and fireplaces, and at least one on every level of the house, including the basement.

When looking for a fire extinguisher, get a multipurpose A:B:C extinguisher that will douse fires from ordinary combustibles (Class A fires), flammable liquids (Class B fires), and electrical equipment (Class C fires). The Kidde Full Home disposable extinguisher weighs only 5 pounds and is a good choice for children to learn to use.

WHERE WILL I PUT THIS?

If I am being totally honest, I walk a fine line between being prepared and hoarding. Fortunately, I'm married to an old navy man who curbs my natural instinct to acquire more stuff than is healthy. Without some balance, it's possible to wake up someday and find that you have 300 pounds of rock-hard beans that you'll never use, the first-aid kit is in the back of a closet somewhere, and you have no idea what happened to lamp oil for the hurricane lamps. Part of being prepared for a disaster is having a house that functions well every day, and it can't do that if it's a cluttered mess. So this leads to the obvious question: Where will you put all this stuff?

For us, the best solution is to make our preparedness supplies part of our everyday life. The hurricane lamps sit on the kitchen table. We use them for fun and ambience, and they are ready if the lights go out. My first-aid kit is fully stocked and lives in a bathroom cabinet. I keep the car cleaned out, and the emergency pack lives in the trunk.

A Place for Everything

When I was first stocking up on bathroom supplies, I worried about where to keep everything in my small bathroom with limited storage space. With four daughters at home at the time, I discovered nine bottles of shampoo and conditioner in various stages of use. I had a similar problem with soap, deodorant, toothpaste, and mouthwash. I spent a profitable afternoon tossing out old stuff and consolidating what was left. (If you put shampoo in a pretty pump bottle, no one will notice that it's an odd color.) I was able to see exactly what I needed to purchase, and there was a lot more room, especially after I installed a

hanging towel rack to free up more room in the cabinet. Now I can find what I need and keep extra supplies on hand.

The kitchen was harder work. I love gadgets, but they take up a tremendous amount of space. The bread machine went, and so did the electric can opener. I got rid of the remnants of perhaps a dozen sets of dishes. I donated a pile of plastic storage containers, and I now use the canning jars I already owned for storing leftovers.

It's a work in progress, and I fight the battle of, "Well, doesn't that look handy?" every time I shop. The odds are that if I lived without it for my first 60 years, I can manage to live without it for the next 60. It also helps when I recognize the following trigger phrases.

- I'll fix that someday. (No, you won't.)
- I'll lose 10 pounds and wear that again. (Really?)
- She'll grow into that. (And she'll hate it.)
- I should save that for … (If she needed one, she would buy it herself.)
- That might come in handy. (Or you might trip over it and sprain your ankle.)
- I could do that great project I saw on Pinterest with this. (Much of my life is a Pinterest fail.)
- If I can find a shirt that matches, I could use these pants. (You will never find the shirt.)

- If the zombies come, I'll be glad I kept that. (Not unless zombies can be destroyed with a broken Wiffle bat.)
- My mother would be sad if she knew I didn't keep those books. (Your mother would understand.)
- My kids will thank me for saving this for them. (No, they won't.)

CHAPTER 13

REVIEW YOUR FINANCIAL PREPAREDNESS

Get your finances in order now so you can manage them in a crisis.

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The world of money has changed. Much of it is virtual now. I know people who rarely have more than $10 in actual cash, relying instead on automated teller machines (ATMs) or debit and credit cards, even for small purchases. Many people do all their banking and bill paying online, so even checks are uncommon. It's all fine until you need to buy milk and nothing works because the power is out.

A hazard of dealing only with virtual money is that you may not realize where your money goes. Track your spending for a month to generate a financial road map. Plugging some of the black holes your paycheck slips into is easier if you recognize them as holes. For me, it was buying coffee on the road. I was stunned to learn I was spending nearly $10 a week on coffee. Brewing coffee at home and using a travel mug saved me enough to make the effort worthwhile.

After you know where your money is going, here are some ways to review your financial goals and set up new ones as needed.

REDUCE OR ELIMINATE CREDIT CARD DEBT. This should be near the top of your goals, in your regular life and in order to be prepared to navigate during a crisis. If you find yourself needing to pay for meals or shelter because you've been forced from your home, you do not want to be denied due to inadequate credit. Tackling debt will also provide you with enough financial space to address important preparedness needs, such as acquiring an alternative source of heat or purchasing a water filter.

PAY YOURSELF FIRST. Even if it's only $5 a week, commit to putting something into a savings account. The goal typically recommended by financial planners is to have six months of living expenses set aside in case job loss or illness prevents you from working. A disaster may well close local businesses and prevent you from earning a living.

PAY BILLS ONE MONTH IN ADVANCE. Consider this forced savings. If you have the money put aside to pay your mortgage and utilities ahead of schedule, you'll be able to navigate more easily the unexpected expenses that happen in a crisis.

UPDATE YOUR INSURANCE POLICIES. Schedule an appointment with your representative and be sure your home insurance policies reflect any increased value. Ask about exemptions. Many policies have "act of God" clauses that nullify any requirement to pay out if damage is caused by a storm or by an earthquake or flood. Include the names of any insurance representatives in your communication file. It's important to

include furnishings in your policy. I suggest you choose an insurance company with a local office whenever possible. Do this with life and car insurance as well.

KEEP SOME CASH AT HOME. It is wise to keep some cash at home. It needn't be a lot. Even $200 in small bills will be useful if credit cards are not working. A roll of quarters kept in your car will at least give you access to vending machines if you are on the road and find you can't withdraw cash from your ATM. A fireproof safe with a tether to prevent robbery is a worthwhile investment. Consider leaving a copy of the combination in a safe-deposit box or with a trusted relative.

USE A LOCAL BANK OR CREDIT UNION. I want to know my banker. I'm willing to forgo some of the convenience of multiple offices and expanded hours for the comfort of the bank president greeting me by name. Check out some of your local bank's services that you may not have thought of. Safe-deposit boxes are not just for those with family jewels to protect; they

are also the safest place for original copies of irreplaceable documents, family pictures, and genealogy charts downloaded to a flash drive.

CHECK INTO ONLINE FINANCIAL PROTECTION. Speak to an expert about your online financial security. Create a log of passwords and updated security features to protect your vital information. Go to USA.gov and request a copy of the *Consumer Action Handbook* to learn how to protect yourself from scams and frauds. Make sure any elderly dependents are protected from scams as well.

The federal government also addresses financial preparedness through www.Ready.gov/financial-preparedness. You can download FEMA's mobile app, which can direct you to resources that will help with disaster assistance resources. Download a copy of the Emergency Financial First Aid Kit (EFFAK), a joint publication between Operation Hope and FEMA's Citizen Corps.

CHAPTER 14

PROTECT YOUR ELECTRONICS

Evaluate your online security and prepare home electronics for power disruptions.

Most of us catalogue our whole lives on our home computers. Family pictures, critical financial information, contact lists — nobody wants to lose these things due to a thunderstorm with attendant lightning strikes. Computers themselves are a major investment, so it pays to know how and when to protect both computer and information from storm damage.

It's important to note that lightning is the most powerful of nature's forces; nothing short of being unplugged can offer complete protection to your appliances. Because a storm can happen when you are away and unable to unplug, your first task is the most important.

Back Up Critical Information

As a writer, I am often working on an electronic manuscript that can represent hundreds of hours of research and labor. If a storm wiped out my computer, it would not be a small loss. It would be a catastrophe, so I transfer all my data to a flash drive every time I log off. Information can also be saved to the cloud or on a secure server.

You should have a box on the side of your home or in your basement called a network interface device (NID). Its purpose is to protect your home's wiring from lightning strikes by directing surges greater than 300 volts to the ground. This is a good start, but much lower voltage can still damage your electronics.

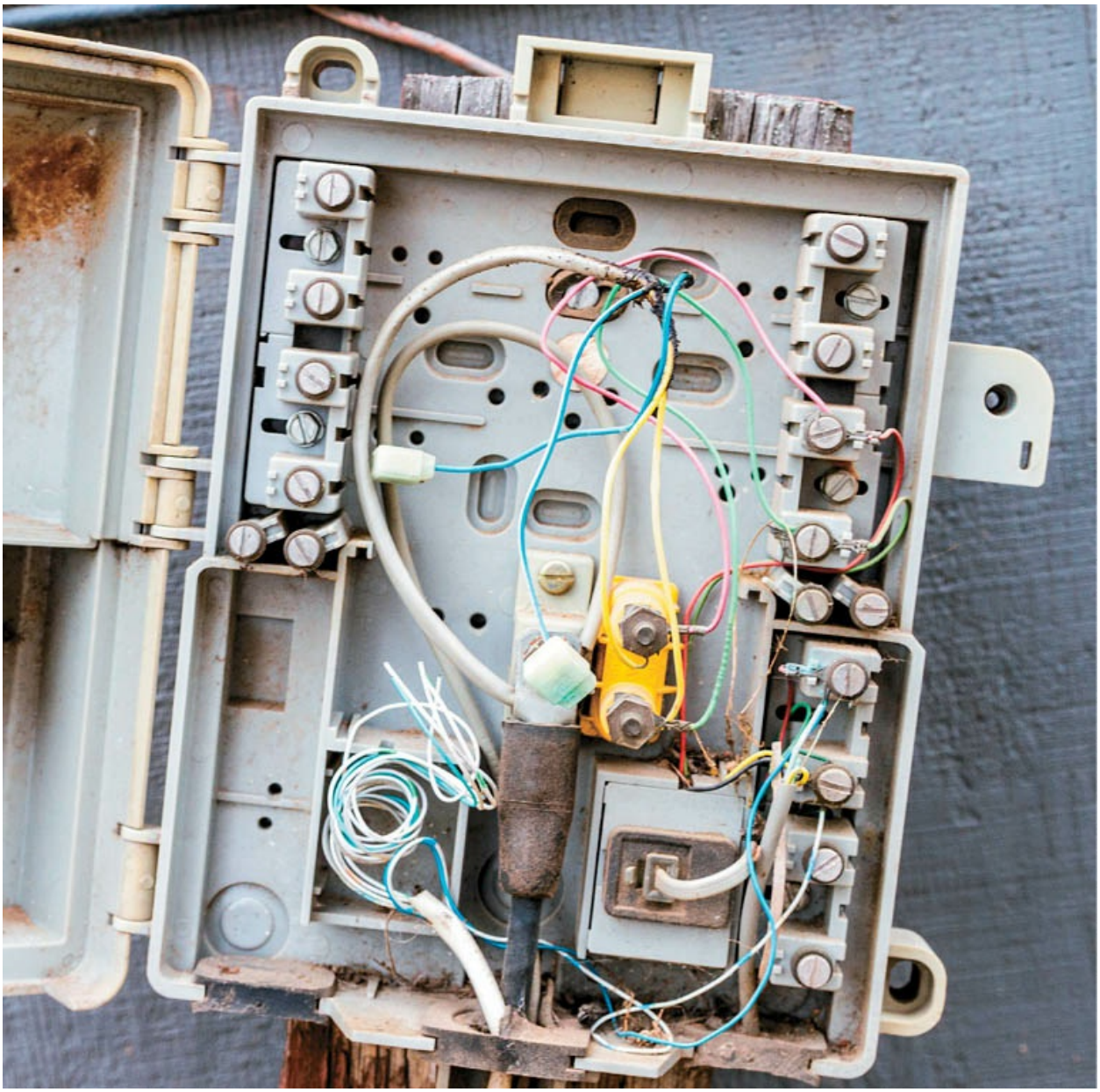
A second layer of protection called a surge protector is also recommended. Although it will not protect your electronics

from a close lightning strike, it will protect them against voltage spikes. A final layer comes from a device called an uninterruptible power supply (UPS), which will prevent any abrupt cutting off of power to your computer. A UPS will prevent even a temporary power disruption, which could cause you to lose valuable data.

The best defense is to keep an eye on the weather and, if a storm is likely, unplug your electronics. It is not enough to turn off plug strips. You must unplug all electronics from their outlets or phone jacks.

Internet Safety

A good preparedness plan should include Internet security in general. Install good antivirus and antimalware programs, and update them regularly. Change your log-in password frequently, and avoid using the same password for multiple accounts. Be careful about using websites for financial transactions. Secure sites are designated with a padlock symbol in the address bar and a web address that begins with https://. (The *s* is for "secure.")



ABOVE: *The network interface device on your house offers just one layer of protection.*

CHAPTER 15

TALK TO YOUR KIDS

Evaluate your children's roles in your family's emergency planning.

Children are not just small adults. They are completely different creatures, and disasters, even some that may not seem dramatic, will affect them in unpredictable ways. Preparing to meet the needs of this vulnerable group is a big part of the

reasons many families begin their journey toward a more prepared lifestyle.

Prior to an Emergency

Include your kids in your plans without scaring them. If you tell them that you are putting a flashlight next to their bed so they can see to move around if the power goes out during the night, they will accept it as the way their family does things. Talk to them before an expected round of storms about what they might see and how your family is prepared to handle it. You can explain that fire, wind, snow, and rain are all part of nature. When we get too much of them at once during a storm, it can cause the lights to go out and other things in the house to stop working for a while.

Talk to them also about the people who help others in an emergency or a disaster. They should have some real-world experience with firefighters, police officers, and paramedics so that they aren't afraid of them or the uniforms or sirens.

If your children can read, a checklist hanging in an obvious location can provide them with reminders of what they need to do should the lights go out and you aren't home. Younger kids will benefit from seeing photographs of what to do. Kids like to be part of the team, so assign them chores that make them feel included.

And one final recommendation: Even though your kids will complain that it's nerdy, have fire drills. Children do best with a lot of practice.

During an Emergency

Even with preparation, kids may be frightened, especially if you allow your concern to show. The most important thing you can do is to remain calm. Some kids may get hyper and silly when stressed, while others shut down. Keeping an eye on your children and recognizing their signs of anxiety will allow you to add extra support when they need it.

Don't expect your children to sleep in their own rooms while a storm is raging. Their imaginations may be running away with them. If they share some far-fetched idea (e.g., the house will be buried in snow and you won't be able to dig your way out), don't ignore their fears. Let your children express themselves, but then present a more realistic picture of what they can expect.

During (and after) a major storm or other crisis, keep your children with you, even (or especially) those who are generally pretty independent. They are less likely to see the danger in a situation and more likely to take risks if something looks like fun. Compared with adults, kids typically have more extreme reactions to everything from toxins in the air to temperature fluctuations. They tend to get sick faster and hurt more often. All of this means that it's a good idea to watch kids more carefully.

After an Emergency

Post-traumatic stress is common in many people, and more so in children. Children have less experience with bouncing back from a traumatic event than adults have, and they are less likely to fully understand what has happened. They are often exposed to constant news coverage of tragedies without the chance for discussion to put the events in context. Be aware that you may need to protect young children from unnecessary exposure to

information they are not ready to process, especially if it centers around their own community or school. Consider whether your child needs to know every detail or see people's grief and loss on television. Don't be surprised if children revert to behavior they might have grown out of, like bed-wetting or thumb-sucking. They may need a night-light for a while after the emergency, too.

A FEW EXTRAS

In addition to your regular preparedness supplies, extra things are a good idea when you have children to think about. Nonelectronic entertainment like board games, cards, puzzles, and art supplies will help pass the time. Be sure your first-aid supplies contain child-specific treatments like oral rehydration therapy and over-the-counter remedies. Comfort foods that your child already likes will make for less stressful mealtimes. If you should have to evacuate, it's helpful to bring along comfort items like a stuffed animal or favorite blanket.

Keep your kids in the loop about what is happening with your family. If you need to evacuate, let them know where you plan to sleep. As soon as possible, return to your usual schedule. Try to maintain your usual rituals for things like bedtime stories and spiritual practices. Even schoolwork can provide a welcome and familiar connection to their familiar experiences.

Provide ways for your children to process their reactions. Encourage them to draw pictures or tell stories about their

memories and remind them that you are all safe now. If your child is experiencing symptoms of anxiety (sleep disturbances or nightmares, eating difficulty, separation anxiety) after a crisis, ask for help from a qualified professional.

ON THE BOOKSHELF

Many good resources are available to help your child cope with traumatic events. Some are geared toward kids and some toward adults.

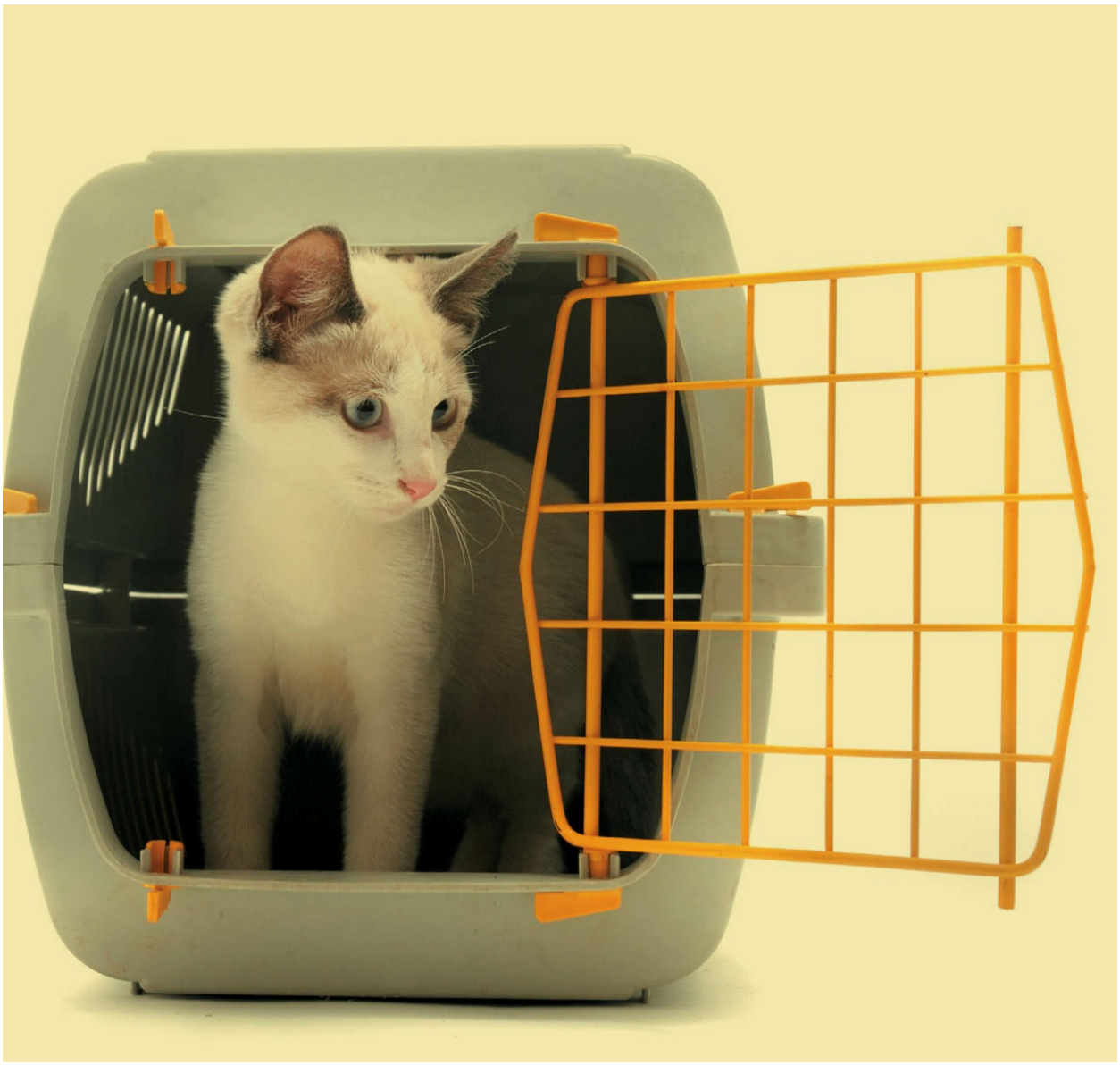
- *The Berenstain Bears Get the Scaredies*, by Stan and Jan Berenstain

- *The Big Dark*, by Rodman Philbrick
- *Blizzard*, by John Rocco
- *A Brighter Tomorrow: A Workbook to Help Kids Cope with Traumatic Events*, by Erainna Winnett
- *Crunch*, by Leslie Connor
- *Healing Days: A Guide for Kids Who Have Experienced Trauma*, by Susan Farber Straus
- *Night of the Twisters*, by Ivy Ruckman
- *A Terrible Thing Happened*, by Margaret M. Holmes
- *Two Bobbies: A True Story of Hurricane Katrina, Friendship, and Survival*, by Kirby Larson and Mary Nethery
- *Whimsy's Heavy Things*, by Julia Kraulis
- *Zane and the Hurricane: A Story of Katrina*, by Rodman Philbrick

CHAPTER 16

PREPARE YOUR PETS

Include a page for each pet in your preparedness binder.



For a lot of us, our pets are members of the family. Our plans would not be complete without thinking about their needs as well as our own. Most pets have few requirements for remaining happy and healthy. They need food and water, a place to relieve themselves, exercise, and companionship.

Your pet may have other needs like regular medication or daily grooming, but in general the following are the things you

need to address.

FOOD. My cat does not do well if his diet is changed, so we keep several bags of his preferred kibble in a lidded garbage can in the shed. When he needs more food, I pull out the oldest bag and replace it with a fresh one. Marking the use-by date with an indelible marker makes it easy to see which bag should be pulled next.

WATER. I store water for our cat just as I do for us.

WASTE MANAGEMENT. This is obviously easier for a cat. All you need is extra litter for his box. A large dog may be much more of a problem. You will need to get your dog out for a walk and be prepared with a bag for picking up his mess.

EXERCISE. Our elderly cat doesn't get outside much, but if you have an energetic puppy or a large dog, you need to think about how he is going to burn off energy. If there is debris around or the surroundings do not look safe, take your dog outside on a short leash. If you have a garage or basement or even a rec room, a few breaks of tossing a ball for him may be enough to keep him from getting bored or rambunctious.

COMPANIONSHIP. Your animal may have even more need of your attention than usual. Animals are often very sensitive to the mood around them, and you may find yourself with a hundred-pound black Lab sitting in your lap, quivering with anxiety. This a good time to pour on the TLC.

Planning Ahead

If you can remain home, you can easily provide what your pet needs. Should you have to evacuate, however, things are far more complicated. If you must evacuate and human lives are in danger, you may be forced to leave your pets behind. If you make plans ahead of time, you should be able to locate a place that will accept pets during an emergency.

Call your local disaster preparedness organization to locate pet-friendly shelters or hotels. Your vet likely has a list of places that accept animals. Have a separate transportation container for each animal; pet crates are a good thing to add to your list of things to look for at garage sales. If you're desperate, a plastic storage box with clamp-on handles and a number of small holes punched in the sides will suffice. Mark each container with the

animal's name, your name and address, and contact information in permanent ink.

If your dog bites, include a muzzle. Most shelters will not accept vicious dogs, and some won't even accept breeds that are considered suspect.

Watch Over Them

Many animals have instincts about weather and can provide advance warning for earthquakes. If your animals are behaving strangely, bring them inside and keep them there. A frightened animal left outside, even in a well-protected shelter, can become jittery and dangerous. If your dog is anxious, be extra cautious with it around children and other pets.

After a storm, your first instinct might be to let your pets outside, especially if you live in a place without leash laws and they are used to running around your yard, but it's not a good idea. Animals are curious. You don't want them getting into rubbish or getting hurt on broken glass or other debris. Downed power lines are a particular hazard.

It might also be hard for your pets to settle down if things look strange. The scents and landmarks might be altered, and they can get lost in otherwise familiar territory. Even the most even-tempered animal may be less predictable than usual. It's not unusual for a docile animal to become aggressive or defensive. Remember that animals are at the mercy of their instincts.

I have concentrated on cats and dogs, but many people have more exotic pets. A shelter may happily take your cat but be less

thrilled with your snake. Think about how to accommodate unusual pets, as well as addressing the needs of outdoor animals like chickens, goats, or horses. If you have more than a few animals, develop contingency plans for taking care of them in a crisis.

HERE IS A LIST of necessary items you should be prepared to supply to a shelter that is taking in pets. The first two should be part of your preparedness binder.

Up-to-date picture (critical should your pet be lost)

Vaccination record

A brief introduction to your pet, including its name, likes and dislikes, and any special safety concerns

Necessary medications

Collar, tags (preferably ones that reflect light) and leash

Pet food (and extra water as well if access is limited) and food dishes

Sleeping mat or towels

Favorite toy

Litter pan and litter for cat

Travel crate

CHAPTER 17

KEEP COMMUNICATION OPEN

Create a family communication plan to make it easier to keep in touch in difficult situations.

ABC 2
DEF 3
GHI 4
JKL 5
MNO 6
PRS 7
TUV 8
WXY 9
AREA CODE

Last Friday night the power went out. It was no surprise. Snow had begun to fall hours earlier, followed by strong winds, and branches were down all over. As soon as I got the hurricane lamps lit and the battery-powered candles turned on, I picked up the phone to check on my son and his wife, as they had a brand-new baby and I wanted to be sure they were all set for heat and lights. I was greeted by silence because our landline depends on electricity. Oops! Fortunately, I was expecting some outages, and we had our cell phones charged and ready to go.

We are used to instant access to information and communications. Losing that access can be harder than almost anything else that happens in a crisis. I remember seeing pictures of a sidewalk outside a restaurant in New Jersey as Hurricane Irene battered the East Coast in 2012. The owner of the business had a generator and was offering his power to people so they could charge up their cell phones and laptops. Long lines of people were waiting to connect with worried friends and family. Every person interviewed talked about how disconnected and uncomfortable they felt and how hard it was to do anything until they could make sure that loved ones were safe. Planning now for possible loss of regular communication channels will remove this major worry for you.

CHARGE IT

Portable chargers are an excellent backup way to charge a cell phone, either while traveling or during a power outage. The devices come in many different brands and sizes, and

basic models cost less than $25. Twice I have found myself needing to leave home in a hurry and discovered my cell phone wasn't charged. This little gadget was a lifesaver.

Compile a Contact List

I know no one under the age of 30 who has a paper address book. If you haven't already set up a contact list in your preparedness binder, do so now. If you live in an apartment building or a close-knit neighborhood, you could generate a phone tree so you and your neighbors can check on one another and see if help is needed. Such a list, encased in a page protector, makes a good gift.

Home Phone

Landlines are becoming less common. If you do have one, consider one that is not grid dependent. An analog phone can be used when mobile service is unavailable, but don't forget that cordless models don't work when the power is out. You can install a message- forwarding feature that will redirect calls to your mobile device.

Cell Phone

We created a phone tree for our large family so that each family member knows which of us to contact should the need arise. Everyone has important numbers on speed dial, and children with their own cell phones learn how and when to activate the system. Create a group list for emergency texts so that all family members receive them at the same time.

Get in the habit of recharging your phone before leaving home. Every person with a cell phone should also have a battery-operated charger. To help your phone battery last longer, reduce the screen brightness and close apps you don't need.

You can sign up for emergency alerts on your smartphone at the FEMA website (www.fema.gov/mobile-app). You don't need an app to sign up for alerts from your local news station or to receive wireless emergency alerts (WEA) from FEMA, which are broadcast by participating wireless carriers in areas affected by an emergency.

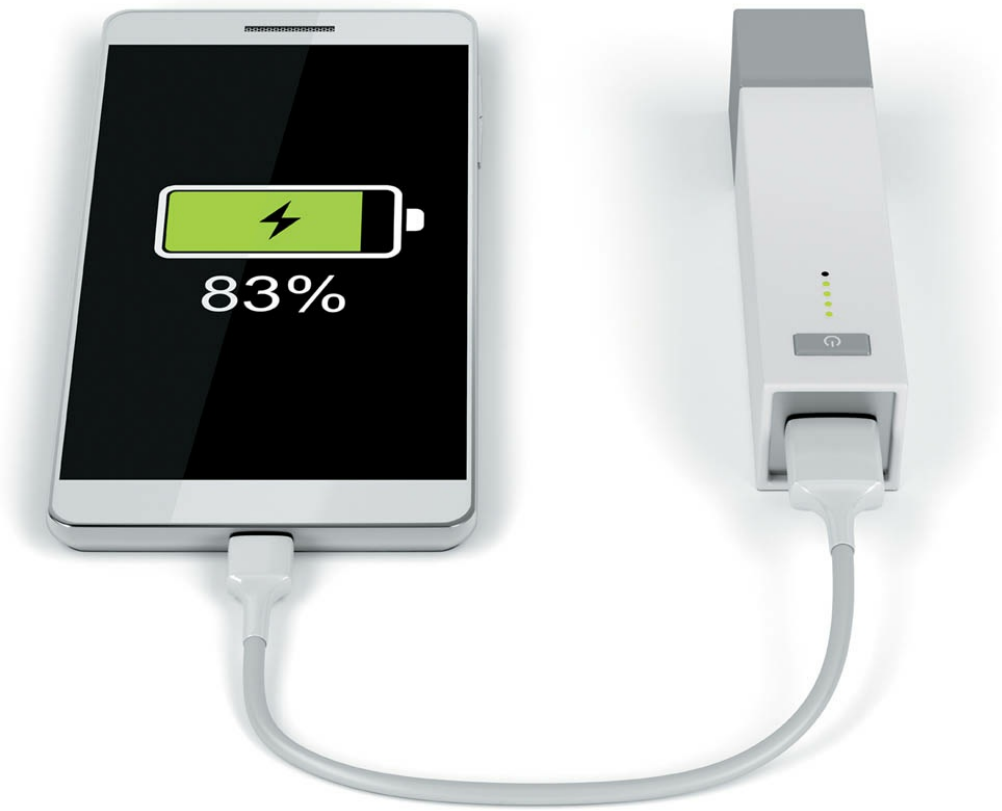
At the very least, invest in a prepaid card and an inexpensive phone for emergency use only. Some cards do expire and need to be updated; check the rules for keeping them operative.

Calling in a Crisis

Should you find circuits overwhelmed, something to be expected in a crisis, switch to text. Texting takes much less bandwidth and is more likely to go through than a phone call.

If you are trying to call but the call won't go through, do not keep hitting redial. Wait 10 seconds so that the signal has a chance to clear. Remember that as much as you might want to talk with loved ones during a crisis, there is only so much

bandwidth available. Keep communications short and to the point to allow others to call home.



Family Plan

Identify a family member or friend who lives out of state or at least out of the region to be the point of contact to help your family connect. Sometimes long-distance calls will go through when local calls will not.

Know the emergency plans for your children's schools or child care providers. Make sure you have a few trusted family

members who have permission to pick up your children should you be unable to fetch them yourself.

Designate a family meeting place if you are unable to return home. A place close to your children's day care or school is ideal. Identify a neighbor who could mind your children should they arrive home and find you not there.

Make sure all family members know how and when to dial 911.

FACEBOOK FOR FAMILIES

If you are on Facebook, creating a private family page is easy. It gives you another avenue for connecting or checking in with family who are geographically separated. If you're not a fan of Facebook, there are other programs, such as Path and Whatsapp, for connecting online that you might prefer. Check out the options for one that suits your situation.

SEEN ON SCREEN

YouTube has some good videos about preparedness, but preview them before letting your kids watch them. The four-minute FEMA video, "It Started Like Any Other Day," for example, is thought-provoking but may not be appropriate for young or sensitive children. Here are some other suggestions.

- From FEMA: "Introduction to Emergency Planning" and "Preparing Makes Sense"
- From the American Red Cross (the first two narrated by Jamie Lee Curtis): "Preparing Your Family for Natural Disasters," "Let's Make a Survival Kit," and "PrepareU — Disaster Preparedness Education for Individuals"
- From Lance Jones, ex–Green Beret: "Disaster Preparedness"

- From the Mormon Church (Latter-Day Saints): “LDS Emergency Preparedness,” a series of good videos with a decidedly religious flavor

CHAPTER 18

TAKE CARE OF YOUR HEAD, HANDS, AND FEET

Inventory your family's collection of hats, gloves, shoes, and boots with an eye to being ready for anything, no matter what the season.

Protecting your extremities from bitter cold or high heat goes a long way toward making you safer and more resilient in an emergency. Check out end-of-season sales for good buys on appropriate clothing. It can still be a significant investment, but if you have to work outside in challenging conditions or stay

inside with limited heat, you will find it well worth the sacrifice to get the best gear you can.

Hats and Gloves

A good deal of body heat is lost through the head, so paying attention to hats is important. You will need one midweight hat, like a knit hat or watch cap, to see you through in cooler weather and to wear inside should you have to manage without central heat. For extreme cold weather, a balaclava or other lined, heavy-duty hat that covers your ears and extends down the side of your face will provide the best protection from icy temperatures and heavy winds.

Hats are also critical in hot weather to protect from sunburn and heat exposure. A summer hat should have a broad brim and perhaps a strap to keep it from blowing off. You might add a bandanna to keep sweat out of your eyes.

In a crisis situation, you may need more gloves than you think. Work gloves come in different fabrics and weights, and I suggest stocking up on a variety of types and sizes. Leather is tough but not very warm unless lined. Be sure your gloves are large enough to accommodate liners for cold weather. Waterproof gloves are necessary for working in wet weather. Gloves specifically designed for snow removal are worth the steep price tag.

Fingerless gloves are good for keeping hands warm while allowing for dexterity. I like the kinds with mitten tops that can be pulled back to give you better use of fingers when necessary. A selection of inexpensive stretchy gloves is useful for times

when you need less protection from the cold. Knit gloves also work as mitten liners for very cold days.

Boots and Shoes

If you are going to spend money on anything clothing related, let it be your footwear. You need good, comfortable, broken-in shoes for walking. Hiking boots are essential if you have to walk any distance over rough terrain. Work boots with steel toes protect your feet from injuries. Winter boots with removable liners are best for outside work in the snow. It is critical that you have a pair of shoes or boots, depending on the weather, that are comfortable and broken in for every person in your car in case you are stranded and have to walk far for help.

And don’t forget socks. Socks are like gloves: You need more than you expect, and you should have plenty in a number of different weights and fabrics. Check out sporting goods stores for sport socks that wick moisture away from your feet, as wet feet are cold feet. In summer lightweight sports socks can help prevent blisters and keep feet cool and comfortable. For cold weather, nothing beats real wool, especially with a wicking liner. Again, stores that cater to skiers and hikers have the best selection of socks. Brace yourself, though, for the price.

CARING FOR CLOTHES AND FOOTWEAR

You don’t need to be an expert tailor to benefit from a sewing kit. A pack of needles in a variety of sizes and a few rolls of thread in a variety of weights and colors is a small investment. Iron-on patches, no-sew fabric glue, and a few safety pins will see you through most minor repairs. A stitch in time saves more than nine: It can rescue a garment you really need until a more professional repair can happen.

A shoe care and repair kit is a good investment. Add in a good waterproofing product, Shoe Goo repair adhesive, and lots of extra shoe and boot laces. We replace nearly all round laces, which tend to come undone, with flat laces as soon as we buy new shoes or boots. Moleskin will prevent blisters when breaking in new footwear.

Keep wet leather footgear away from direct heat when drying, and treat it with leather grease or conditioner as soon as it dries. Separating liners from boots will help them dry faster, as will stuffing the toes with newspaper or paper towels.

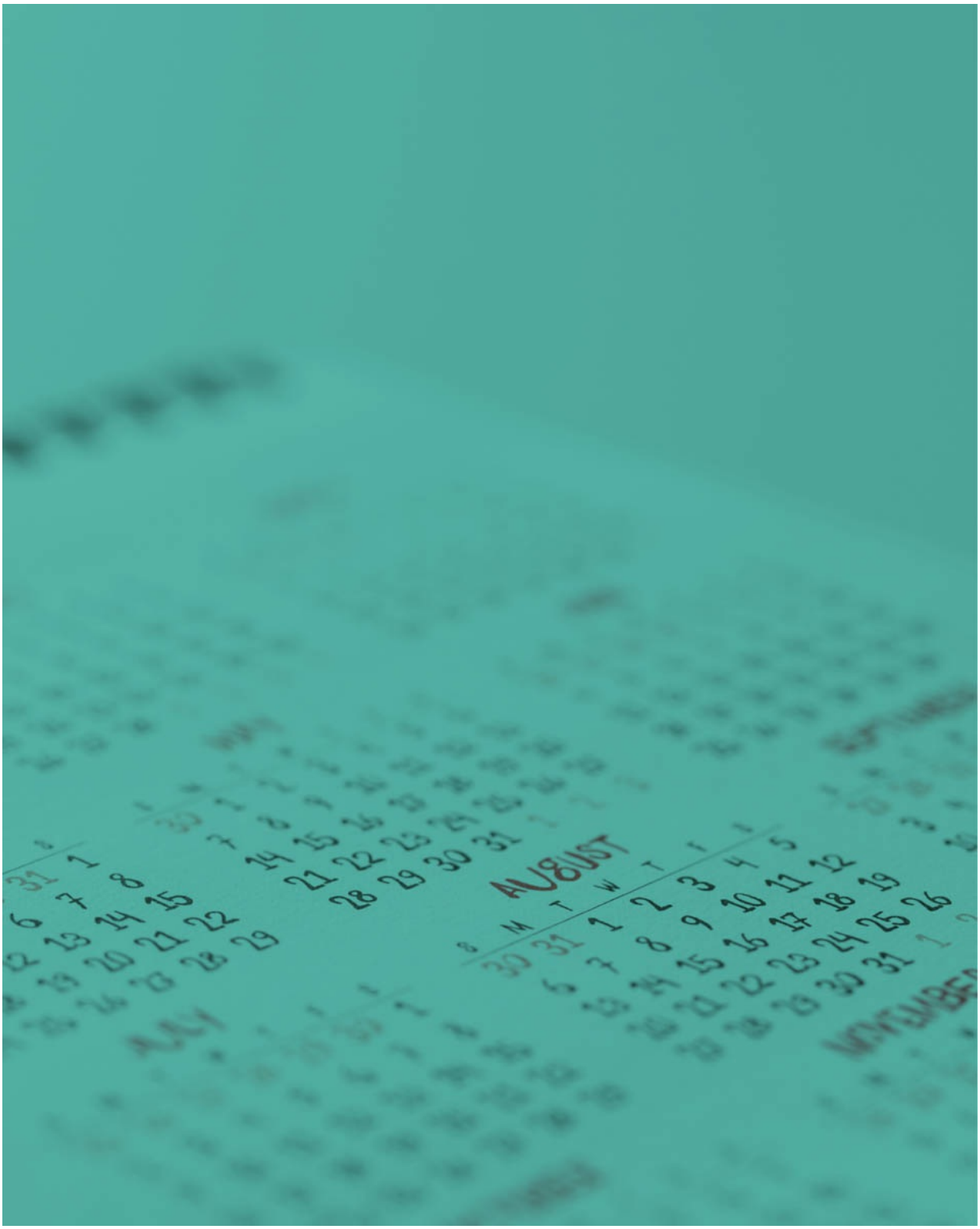
At the end of each season, wash or dry-clean all outerwear and make any necessary repairs. Vacuum bags can compress bulky things like down parkas into manageable packages. Clean and waterproof boots, and make a list of items that need to be replaced before packing things away for the following year.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

CHAPTER 19

SHOP FOR THE BEST BUYS

Develop a prepping budget and follow the calendar for bargains.


AUGUST

Money is an issue for most of us. In fact, one of the things that got me interested in putting away a store of food and other necessities was wondering how we would manage if my husband or I lost a job. I figured that if I didn't have to worry about putting dinner on the table, I could manage everything else. That worry is real for millions of Americans. Many may understand that preparing is the responsible thing to do, but it can be hard to stretch that paycheck to cover the necessities — and forget about adding extra food or an oil lamp.

I pick up a few things each week, paying close attention to sales and specials. The clearance rack is a prepared family's best friend.

Shop by the Calendar

Stores need to move merchandise. If it is taking up shelf space, they're losing money. They also need to get you in the door, as the competition with online shopping is fierce. This offers you two good opportunities. One is to pick up loss leaders. Those are items a store is willing to take a loss on while making up for it with higher profit margins on other items. If you're a careful shopper, you can snag excellent deals. A second opportunity is postholiday sales. Once a holiday is over, any remaining merchandise has to go. There is no room to keep the extra inventory until the following year. Many promotional months are dedicated to an agenda. Products related to that agenda will likely go on sale as a way to promote the idea. This is another way to accumulate great savings.

I put together a calendar of sales, listing things I know are going to be at rock-bottom prices in particular months.

JANUARY is National Oatmeal Month. I have gotten oatmeal for half the usual price. You might start seeing sales on outerwear, especially if the winter has been mild. Larger pharmacies will have deals on cold and flu remedies as well as vitamins. Traditionally, January is the time for white sales, which feature sheets, towels, and blankets. Check out clearance sections for holiday candles and candy.

FEBRUARY is National Canned Food Month as well as National Hot Breakfast Month. It's the perfect time to find case sales and deals on hot cereal. It's also Chinese New Year, so look for specials on soy sauce, teriyaki sauce, noodles, water chestnuts, and mixed vegetables for stir-fries. And let's not forget chocolate. Wait until February 15 (the day after Valentine's Day) for the best deals. You'll also find the best deals on winter wear this month; stock up on coats, hats, gloves, and boots.

MARCH is National Frozen Food Month. In general, you don't want frozen food for preparedness, but if you have a dehydrator, you can take advantage of good prices by dehydrating frozen food for longer term storage. I have found clearance winter storm items like snow shovels and rock salt. Check out your local hardware store for deals.

APRIL is a good month for sales on baking supplies like coconut and chocolate chips. Sometimes baking mixes will be on special. This is the last hurrah for winter clearance. The selection is minimal, but the prices are rock-bottom. Resale clothing stores are dumping winter wear — look for buck-a-bag bargains. April is also the month of Earth Day. Organics are on sale, as are

energy-efficient light bulbs and hand-crank flashlights. Don't forget that after-Easter candy. It has a long shelf life.

MAY offers sales on picnic supplies for Memorial Day, so stock up on paper plates and napkins, as well as condiments, insect repellent, and sunscreen. Cinco de Mayo celebrations will offer the best prices on salsa and tortillas. Now is the time to start getting your garden supplies, before the stock gets too picked over.

JUNE is National Dairy Month, which offers few opportunities for storage food. You can, however, find good prices on charcoal and picnic supplies. Deals on camping supplies are out there, too. Seasonal produce is everywhere, from your local market to farm stands, so if you want to try your hand at food preservation, now is the time. Back-to-school shopping is

starting, so watch for loss leaders on office supplies. Clothing is typically expensive. If you can wait until after the first day of school, sales will be better.

JULY is a vacation season, and I find few good deals outside of produce. It is, however, sometimes good for tag and garage sales. It's also National Ice Cream Month. (Though ice cream isn't at all useful for preparedness, I still think you should enjoy it.)

AUGUST brings end-of-summer clearance sales on sunglasses, sunscreen, and insect repellent, as well as summer clothing. Fall and winter clothing prices are at their highest of the year, even with back-to-school sales. Camping inventory is going on clearance now to make way for winter sports. Harvesttime is in full swing, so check for deals in hardware and farm stores on canning supplies. This is a great time to stock up on seeds. I have gotten them for half price, and most seeds will keep for a long while if properly stored. Potting soil and peat pots are also on sale now.

SEPTEMBER is National Preparedness Month. It's the Holy Grail for people like me. Add in the amazing produce, and it's my favorite time of the year. Save your preparedness dollars from the slow months of July and August and put them to work at department stores, sporting goods stores, and online businesses that cater to preppers.

(I dislike that term, by the way, because it has become associated with an alarmist and isolationist mind-set. I want to frame prepping in a different, more community-minded way. I prep so that I can be a community resource. I want to help others prepare because we all do better working together. I'm not afraid my neighbors will ask me for something. I hope they do and I hope I can let them know when I need help, too.)

OCTOBER sees sales on baking supplies turn up as we approach the holidays. Look for canned pumpkin and evaporated milk. I buy cases while the price is right. It's also National Adopt-a-

Shelter-Dog Month, which means that you can sometimes score big on pet food. Candy is on sale, but wait till after Halloween to stock up.

NOVEMBER continues with sales on baking supplies, but the big winners this month are those loss-leader turkeys. I have gotten several at a time and canned up quarts of meat and stock. You can also stock up on boxed stuffing and instant potatoes. This is the best month for sweetened condensed milk and coffee, tea, and hot chocolate mixes. Outerwear is expensive now. It's best to wait for the February clearance sales if you don't yet have everything you need.

DECEMBER is a good time for deals on canned food, but for the most part I avoid shopping this month. It's time to hunker down for the long winter nights and read something wonderful.

10 THINGS TO LOOK FOR AT YARD SALES AND THRIFT SHOPS

Even as you're cleaning out your closets and organizing your storage space, you might be looking for other items that are part of your preparedness program. Not everything needs to be brand-new. Take advantage of other people's efforts to organize their lives.

- Hurricane lamps
- Camping equipment
- Candles

- Food preservation equipment
- Canning jars
- Tools
- Kitchen tools
- Books
- Cast-iron cookware
- Gardening supplies

CHAPTER 20

BUY IN BULK

Make a list of local buying clubs and cooperatives, big-box stores, and farmers' markets and plan a shopping trip that will fill your pantry while saving valuable resources.

Flour

We all have different urgencies when it comes to shopping. Price matters to most of us. Convenience matters to others, as does shopping in ways that cut down on packaging to avoid unnecessary pressure on our landfills. The best way to target all three of these areas while becoming more prepared is to explore buying in bulk. There are a few ways to do this.

Keep an Eye on Sales

I use an online personal price tracker to determine the rock-bottom price on any single item so I can buy a quantity when the product hits that number. If I know that I can get a 16-ounce box of pasta for $0.88 a box and I also know that I use 52 boxes a year, I can wait for that sale and buy 52 boxes. After that I will only need to buy enough pasta to replace what I have used when the sale comes around again, typically every three months.

Some products are particularly inconvenient to run out of. Toilet paper, toothpaste, soap, shampoo — none of these are expensive, and all are things you don't want to be out of if a storm prevents you from getting to the market. It makes good sense to track your usage of something like toilet paper. If a family of four goes through a 4-pack of toilet paper each week, investing in a bulk buy of 72 rolls from the big-box store makes sense. Do this four times over several months, and you will have a one-year supply of that necessity. Every three months you can replace one of the bulk packages and always have a one-year supply.

Buy in Quantity

Some things are less expensive when bought in larger amounts. A 5-pound bag of flour might cost about $2.50 on sale, which gives a cost per pound of $0.50, while buying a 25-pound bag for $7.98 drops the cost to $0.32 per pound. At a wholesale club, 50-pound bags will be even less per pound. As I usually use about 5 pounds of flour a week, buying it in 25-pound bags saves money, and I'm sure of always having flour on hand.

I asked at a local grocery about buying a brand of salsa we particularly like. They gave me a 30 percent discount when I ordered a case of it. A small store doesn't have to take up valuable shelf space with this product and can still order a larger volume at a time, which reduces the price for the store. Most local stores are happy to do this, but they may ask for payment up front.

Another strategy is to buy from bulk bins. I do this for many grains, dried fruit, seeds, and nuts. Some stores let you use your own containers, which cuts down on packaging. Bulk bins often have excellent prices on items with a long shelf life, so it's a good way to stock up.

Join the Crowd

Joining a food co-op offers many opportunities to use all of these buying strategies. Shopping as a group keeps prices low, and you can share purchases among friends. You can join an existing co-op or start one yourself. Food co-ops have different structures. I belong to one for which a single person does all the work and gets a larger discount. Her garage acts almost like a small store. I place my order with her online and then arrive on delivery day for my pickup, payment in hand.

I have also belonged to co-ops that have work requirements. Everyone participates with weighing and packaging. You do need a dedicated space and a crew large enough to share the work. These arrangements are often informal and happen in

groups that are already organized around an existing structure like a church or a homeschooling group.

I belong to another bulk club that has a phone tree. If one of us is out shopping and comes across an amazing deal, we send a group text. People who want to take advantage of the offer place an order, and the shopper buys for all who are interested. This works well only with a small group; it gets too cumbersome with more than four or five families.

Support Your Local Farmer

A final way to purchase in bulk is to check out what is being harvested where you live and buy directly from a farmer. I buy potatoes in the fall in 50-pound sacks and store them in my root cellar. I buy corn from roadside stands and can it at home. Apples are available by the bushel, as are pears and peaches. When I don't grow enough, we make a day of it and bring the produce home to process. The blueberries I get by the flat are turned into a year's worth of preserves in just a few pleasant hours

CHECK IT OUT FIRST

Before committing to spending the money on a membership to a big-box store like Costco, Sam's Club, or BJ's, ask for a one-day pass or go once with a friend to make sure the store will fit your needs. I once signed up for a membership at a store an hour away, and I so seldom got there that my membership was wasted.

CHAPTER 21

GROW A LITTLE GARDEN

Sketch out a plot plan of your yard with an eye to growing at least a little of your food.

You might be wondering what gardening has to do with a family preparedness plan; I'm sure my editor is, but I think it has a place. Obviously, you won't be running out to the garden to grab a tomato for a salad in the middle of a blizzard, and a tornado will probably leave a garden bed in pretty rough shape. But a garden can make a difference when services shut down. When the Soviet Union collapsed in 1991, many people were able to eat only because women had planted small garden plots with turnips, potatoes, beets, and cabbage: vegetables that could be stored in cellars and were rich in desperately needed calories and nutrition.

Gardening is a broad term. It doesn't require acres of land, a garden tractor, or a life of constant toil. A garden can be as large

as you can handle, but you can also create one in a tiny yard, in containers on a patio, or even on a counter or windowsill in your kitchen. My most reliable and successful crops are the seeds I sprout year-round in mason jars inside a kitchen cabinet. (See also Indoor Gardening.)

My outside garden is not fancy. I don't experiment a lot with unusual varieties or change my practices very often. I have it narrowed down to the most useful, reliable, nutrient- or calorie-dense varieties of produce I can either eat fresh or preserve to enjoy all winter.

With regard to preservation, I plant less of things that need to be frozen, like broccoli, concentrating instead on fruits and vegetables that can or dry well or can be stored in my root cellar. (See also Learn to Preserve Food.) Here I just want to present some options for making the best use of your outside space. Many of these "crops" can be tucked into a sunny corner or cultivated in a small raised bed.

HERBS. An herb garden is easy to establish, and a very small space can satisfy most of your needs for culinary herbs. Herbs that spread freely can be obtained from friends. Many culinary herbs are also medicinal, and most herbs can be steeped alone or combined with other herbs to make delicious teas. Rosemary Gladstar's book *Herbal Recipes for Vibrant Health* is a good place to start if you want to learn more.

VEGETABLES. Even a small vegetable garden can meet some of your food needs. If you are a beginner, choose one or two easy-to-grow and useful food plants. I grow kale, as it's one of the most nutrient-dense vegetables and we all like it. A few kale

plants will keep you in greens from April through November and even longer under cover. Tomatoes are another favorite. I grow enough to make jars of sauce and salsa. I even put up ketchup and barbecue sauce if we have a banner year.

EDIBLE LANDSCAPE PLANTS. Fruit trees, berry bushes, asparagus patches, and stands of rhubarb all provide beauty as well as edibles to enjoy in season or preserve for later use. Garlic is easy to grow, and a small patch will give you plenty to use, as well as cloves to replant every year.

GROW MICROGREENS

Salvage the containers that fruit and vegetable platters come in to make miniature greenhouses. Poke holes in the bottom to let excess water drain out, and set the greenhouse on a tray to catch any drips. Fill with a good potting mix and sprinkle the surface with seeds for miniature varieties of lettuce or spinach. Use the clear plastic top as the greenhouse cover. Greens will pop up in just a few days. Harvest a few leaves at a time, and don't overwater.

Plant a Container Garden

Having a small yard does not mean you can't grow any food. If you choose the right varieties, you can grow a lot in containers on a deck or patio. Choosing climbing vegetables like beans and cucumbers, or ones like squash that can be trained up a trellis, allows you to grow a lot of food with a tiny footprint. Even

potatoes can be grown in a tower. I have harvested 15 pounds of perfect spuds in a 1-foot-by-1-foot-by-4-foot tower. YouTube has dozens of videos on the subject.

Cold frames take up little space but provide a bonanza of greens during the time of year we most crave something fresh and crisp. With some planks and a discarded window, you can make one in less than an hour. Add some compost and seed with greens like mâche, mustard, and kale in the fall. The plants will emerge and with little care produce greens well into winter. Come spring, these hardy greens will emerge again. (See also Indoor Gardening.)

My yard is not your yard, nor is my life your life. You need to take stock of your own situation and decide what role a garden will play in your preparedness plans. See where you might add an asparagus bed or a pear tree. Then investigate local gardeners' favorite seed catalogs. You can order the catalogs and spend a lovely afternoon with a cup of tea and a wish list. Gardening is addictive! If you aren't careful, you may find yourself deciding to dig up some of that grass to put in an herbal tea garden.

It Doesn't Take Much

If you decide to make growing some food, indoors or out, part of your preparedness plan, here are a few things you'll need if you aren't already a gardener.

HAND TOOLS. Humans grew food for thousands of years without rototillers. A good hoe and a shovel, a trowel, and a garden fork will do for a small plot.

GARDEN GLOVES. You will need them. Get several pairs.

SEASON EXTENDERS. Hot frames and cold frames, row covers, and even small tabletop greenhouses are good ways to extend the garden season.

Indoor Gardening

Let’s continue the theme of growing some of your food by talking about what you can do when all the garden space you have is a few windowsills or a table that sits in your one sunny spot. Does it limit what you can do? Of course it does. You will not be growing potatoes or tomatoes inside. Both need more space and sunlight than you have to work with, but you can still provide some useful variety to a bland diet of stored food.

Herbs are perhaps the easiest thing to grow indoors. In fact, greens of all types do better indoors than plants that bear fruit, as they require less light and you don’t need to worry about pollination. There isn’t much energy value to most herbs, but they will add extra flavor and nutrition to many foods.

Another easy indoor effort is to start greens using the part of the vegetable you would usually discard. You can grow carrot, celery, endive, shallot, and beet greens in a shallow container. Change the water often and be sure the plants get adequate sunlight. You won’t be harvesting much, but all these greens are packed with nutrients and flavor. This is a fun project for kids.

ON THE BOOKSHELF

Here is a list of my favorite gardening books. Some are quite old and some newer. All are tried and true.

- *Don't Throw It, Grow It!: 68 Windowsill Plants from Kitchen Scraps*, by Deborah Peterson and Millicent Selsam
- *Fruits and Berries for the Home Garden*, by Lewis Hill
- *Gardening When It Counts: Growing Food in Hard Times*, by Steve Solomon
- *Homegrown Herbs*, by Tammi Hartung
- *How to Grow Winter Vegetables*, by Charles Dowding

- *MiniFarming: Self-Sufficiency on ¼ Acre*, by Brett L. Markham
- *Paradise Lot: Two Plant Geeks, One-Tenth of an Acre, and the Making of an Edible Garden Oasis in the City*, by Eric Toensmeier with Jonathan Bates
- *The Polytunnel Handbook*, by Andy McKee and Mark Gatter
- *The Resilient Gardener: Food Production and Self-Reliance in Uncertain Times*, by Carol Deppe
- *Seed to Seed: Seed Saving and Growing Techniques for Vegetable Gardeners*, by Suzanne Ashworth
- *The Vegetable Gardener's Container Bible*, by Edward C. Smith
- *Vertical Vegetables & Fruit: Creative Gardening Techniques for Growing Up in Small Spaces*, by Rhonda Massingham Hart

SPROUT SOME EASY NUTRITION

In terms of storage food, you really can't beat sprouting seeds and beans. Two tablespoons of seeds or beans will produce 1 quart of food in five days. The amounts of protein, calcium, potassium, iron, B vitamins, and vitamins A and C

are far higher in the sprout than in the seed. Seeds and beans are inexpensive and store well in very little space.

I love alfalfa and broccoli sprouts. Radish seeds are really good if you want some zip. Look for sprouting mixes designed for salads or stir-fries. I get mine through Sproutpeople. You can also find a good selection on Amazon. Bear in mind that sprouts have no shelf life and must be eaten fresh. For a steady supply of fresh vegetables, you begin a new jar every few days and eat them quickly. You can toss them in salads or add them to a sandwich. I always add a big handful to tuna fish. If you are adding to a hot dish, put them in at the last minute. They need almost no cooking.

And it's so easy! Just follow the directions given here. I have seen all sorts of fancy systems for sprouting; some even do the rinsing automatically. That's fine if you like gadgets, but any system that is automatic requires some power, and the idea here is to come up with a plan that doesn't need electricity. I have harvested many pounds of sprouts using a mason jar, a piece of cheesecloth, and a jar band.

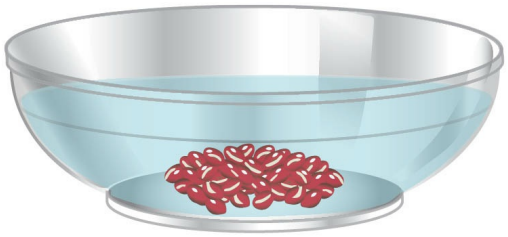
WHAT YOU NEED

- **1** or more quart-size canning jars with lid bands
- **2** tablespoons seeds or beans
- Nonchlorinated water
- Small square of cheesecloth or screening

WHAT TO DO

1. Wash the jar in hot, soapy water and rinse thoroughly.

2. Rinse the seeds with nonchlorinated water. If your tap water has chlorine, fill a gallon container and let it set out for a day so that the chlorine will dissipate. Some people suggest using distilled or purified water, but I have used tap water for years without any problem.

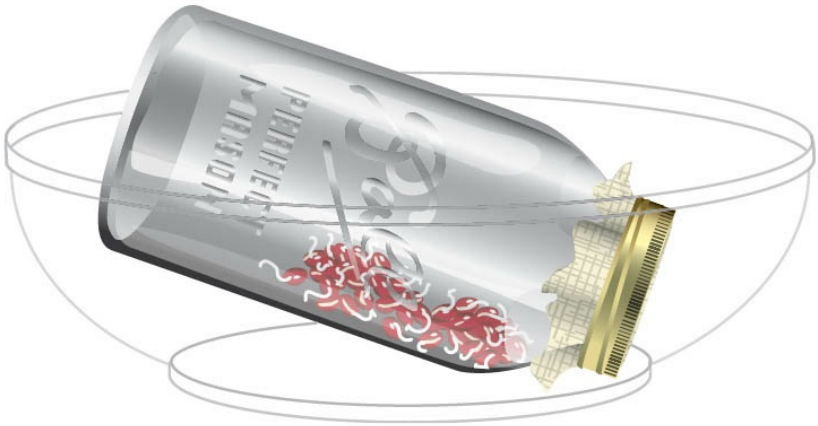


3. Add 2 tablespoons of seeds to the jar. Fill the jar half full of water and cover it with the cheesecloth, held in place by the jar band. Let the seeds soak for 12 hours.

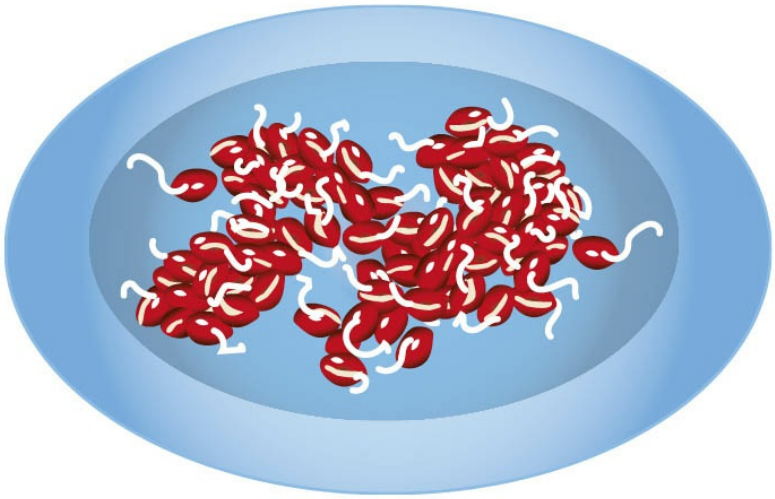
4. Pour off the rinse water and save it to water your houseplants. It's full of phytonutrients.

   Twice a day, rinse the seeds with fresh water and drain them well. They need to be damp, but bacteria

will grow if they sit in water. You will know because they'll have a sour, off odor. I set the jar at an angle with the top down in a bowl in a cabinet so that it's out of the light.



5. You will start to see growth within 24 hours; the seeds will be ready to eat in four or five days. I set my sprouts in the light for several hours to green them up before eating.



CHAPTER 22

LEARN TO PRESERVE FOOD

Research a means of food preservation that is new to you and give it a try.

Whole books have been written about food preservation, and the information given here is not going to teach you any of the skills associated with preserving food. It's intended to provide an overview of what methods are available, what kind of equipment you need, and how preserving food can fit into an overall plan for being prepared for emergencies.

Preserving food was a vital part of most cultures that fell out of favor as refrigeration, home freezers, and meals on-the-go became common. Over the past decade, however, there has been a resurgence of interest in healthier eating. People who want more local, organic food have begun growing their own, and that has led right back to food preservation.

For our purposes, it's important to remember the roots of preservation. Families put aside food in times of abundance to see them through times of want. It was all about being prepared for disaster. What follows is a primer on preservation.

The Simplest Methods

DEHYDRATION may be the oldest way to preserve food. You remove moisture with warm, dry air. It can be done in the sun in places with the right climate. In other parts of the country, it is accomplished by hanging food over a woodstove or in an attic. More often it's done with a commercial dehydrator. Such devices are available at many price points. I often see them at garage sales. The more expensive dehydrators are worth the price; they

come with thermostats and are designed so that you don't have to rotate the trays. I love my Excalibur, which I've found to be head and shoulders above other models.

Root cellaring requires nothing but a cold space with some air circulation. Older homes often have a walled-off space in the corner of a basement just for saving the fruits and vegetables that keep well. Potatoes, carrots, beets, turnips, cabbages, apples, and pears can keep for months and provide good nutrition, flavor, and calories no matter what is going on with your power grid.

LACTO-FERMENTATION is an ancient low-tech method of preserving food that has seen a renaissance of interest recently. All you do is add salt to vegetables and let bacteria (specifically, lactobacilli) do the work. Flavor and nutrition are enhanced, which is not always the case with preserved food. You don't need much but salt and a crock. Sauerkraut is the fermented food we are most familiar with, but nearly all vegetables can be preserved by this method.

Canning Methods

Lots of people who want to try canning start with water-bath canning. You can put up jellies, jams, and preserves as well as pickles with this method. For equipment, you need a canner — a large pot with a lid and some sort of rack that keeps the jars off the bottom. You also need canning jars, lids, rings, and a good instruction book. A funnel, a lid lifter, and a jar lifter are all useful and make the job easier. You can often find complete deals at department stores or hardware stores as garden season arrives, or shop for bargains at yard sales and thrift shops.

BEWARE THE INTERNET!

I have seen any number of directions for canning things like butter and milk. If the National Center for Home Food Preservation doesn't say it's safe, it isn't. Many old methods have fallen into disfavor as we learn more about food safety. Use only the most up-to-date and trustworthy sources for information.

Pressure Canning

For low-acid foods like meats and vegetables, you need to use a pressure canner. Pressure canning scares people. They fear all manner of unpleasant ways to die, like botulism and exploding pans. Rest easy: It's a pretty straightforward process, and it can

save you considerable time and money. But there is a learning curve. If you can find a class, take one. Otherwise, take a private lesson from someone who knows what he or she is doing. Make sure that whoever is mentoring you uses up-to-date information and safety precautions. Get a couple of good books and read them through before you get started.

When it comes to buying a pressure canner, I am going to suggest something out of character: Do not buy secondhand. You want the best equipment you can afford with the most recent safety features. There is no way to ensure that the canner you found in your neighbor's attic has an accurate pressure gauge or a good seal. Don't risk your family's safety. You can get an adequate canner at most department stores, or you can go online for a bigger model that will last for generations. As with water-bath canning, you will need jars, lids, and rings; also helpful will be tools like a funnel, a lid lifter, and a jar lifter.

Canning Equipment

You must use jars that are intended for canning. Commercial jars designed for single use will not hold up to the high heat and pressure of home canning. You can reuse canning jars over and over, but most canning lids and rings can be used only once. Tattler brand lids and rings are an exception; the price is higher, but they can be used dozens of times.

The well-equipped kitchen has a good selection of measuring cups and spoons, ladles, spatulas, and large spoons. I strongly recommend the best knives you can afford, a sharpening steel, and a selection of stainless-steel bowls and wooden cutting

boards. You will be working with extremely hot water and metal, so get good pot holders. Silicon gloves are a good investment.

ABOVE: *If you put up a lot of canned goods, a dedicated canning shed is worth the effort and investment.*

ON THE BOOKSHELF

If the idea of preserving food appeals to you, begin to acquire your library. As these are reference books, you will want to own them. Some are classics and always available. Others are updated each year, and you want the latest issue. These are books I have in my library and use all the time.

- *Ball Blue Book Guide to Preserving* (Currently in its 37th edition, this guide is updated frequently.)
- *The Beginner's Guide to Preserving Food at Home*, 3rd ed., by Janet Chadwick
- *The Dehydrator Bible*, by Jennifer MacKenzie, Jay Nutt, and Don Mercer
- *How to Store Your Garden Produce: The Key to Self-Sufficiency*, by Piers Warren
- *The Pickled Pantry*, by Andrea Chesman
- *Preserving Food Without Freezing or Canning: Traditional Techniques Using Salt, Oil, Sugar, Alcohol, Vinegar, Drying, Cold Storage, and Lactic Fermentation*, by The Gardeners and Farmers of Terre Vivante
- *Putting Food By*, 5th ed., by Janet Greene, Ruth Hertzberg, and Beatrice Vaughan
- *Root Cellaring: Natural Cold Storage of Fruits & Vegetables*, by Mike and Nancy Bubel
- *So Easy to Preserve*, 5th ed., by Elizabeth Andress and Judy Harrison
- *Wild Fermentation: The Flavor, Nutrition, and Craft of Live-Culture Foods*, 2nd ed., by Sandor Ellix Katz

CHAPTER 23

LEARN TO COOK IN A CRISIS

Make a plan for preparing hot meals and drinks without using electricity.

I suppose it's possible to slurp down a can of gummy room-temperature soup and muddle through, but wouldn't you rather have a hot meal at the end of a long day dealing with the aftermath of a severe storm? A breakfast of cold cereal topped with reconstituted powdered milk won't kill you, but I prefer hotcakes with maple syrup. Figuring out how to turn all that food you have stored into delicious meals depends entirely on having a way to cook it. Here's how to determine which of your options is the best for your situation.

Gas Stove

If you have a gas stove, the cooktop will still operate if you have a match to light it. The electronic ignition is the only part affected by a power outage. You will not be able to use the oven, although you can get a stove-top oven that is essentially a metal box that surrounds a pan with heat so you can bake. (It isn't practical for everyday use.)

The key with gas is making your fuel supply last as long as possible. That's one reason I store so many canned beans; dried beans take up less room and are far cheaper, but they require a long cooking time. I want to eke out my fuel stores. If this is your primary option, designing heat-and-serve meals makes more sense than planning long-cooking stews or casseroles.

Woodstove

If you have a woodstove with a flat top for cooking, you are in better shape than many people. Installing a woodstove can be a complicated process. If you are thinking of getting one, check with your local authorities about what you need to have in place for fire safety and have the stove professionally installed.

The stove does no good without a reliable source of wood. Around here, seasoned firewood can be expensive, especially if you wait until December to get it. *The Backyard Lumberjack*, by Stephen Philbrick and Frank Philbrick, is a terrific resource for learning about heating with wood.

As for cooking on top of it, only cast-iron cookware will stand up to the high temperatures of a woodstove. Try baking by inverting a cast-iron Dutch oven over a smaller pan. You can also do some cooking inside a woodstove. For example, cook vegetables wrapped in heavy-duty aluminum foil in the ashes.

Gas Grill

Gas grills are ubiquitous in most neighborhoods and, especially during warm weather, can be handy in a power outage. They are great for grilling a steak but less useful for simple tasks such as boiling water for a cup of tea. It is not a bad idea to keep a spare propane tank around. They will be hard to come by within 24 hours of a power outage. If you must move a grill into a garage

or other enclosed space to get out of bad weather, always make sure there is plenty of ventilation when you use it.

LEFT: *gas grill;* **RIGHT:** *camping stove*

Camp Stoves

Before we discuss camp stoves we should talk about British thermal units (BTUs). A BTU is the quantity of heat needed to raise the temperature of 1 pound of water 1 degree Fahrenheit. Different stoves and fuels produce different BTUs. Knowing your stove's ability to pump out heat is important when deciding which stove makes the most sense to invest in. I have a couple of small, portable camp stoves designed to be used with a canned fuel. You can't do much more than boil a small amount of water

or heat up a cup of soup. You won't be making chicken and dumplings with one of these.

For the kind of cooking you will want to do if the lights are out for more than a day or two, investigate larger camp stoves. Be sure that any stove you choose is designed to be used inside. If the stove isn't labeled for indoor use, assume that it isn't. If the stove is to be used outside, you will need to prepare an area that is protected from the elements. A garage with the door open is okay, but set up your equipment close to the opening.

There are dozens of stoves to choose from, and I have certainly not tried each one. Many are better suited to backpacking than to emergency cooking. Of the stoves I have tried and found to work dependably is a Coleman two-burner propane stove. It produces enough BTUs of heat energy to cook a bacon-and-egg breakfast. The direct flame is hard on some cookware, so I keep a couple of inexpensive pans just for use on this stove. Cast iron is too heavy. This stove should not be used inside except with good air exchange; keeping it outdoors is safer.

You will want to store several extra propane canisters. Again, planning meals that require just heating up rather than cooking will stretch your fuel supplies.

Sterno Stove

Sterno stoves, which rely on a fuel made from gelled alcohol and stored in a small can, are portable and lightweight. Store lots of Sterno, and you can heat up most canned food very quickly.

SAFETY CHECK

Every home needs working smoke and carbon monoxide detectors, especially if you are using alternative sources for cooking. While we are talking about safety, let's not forget checking the dates on our fire extinguishers. They expire and must be refilled or replaced.

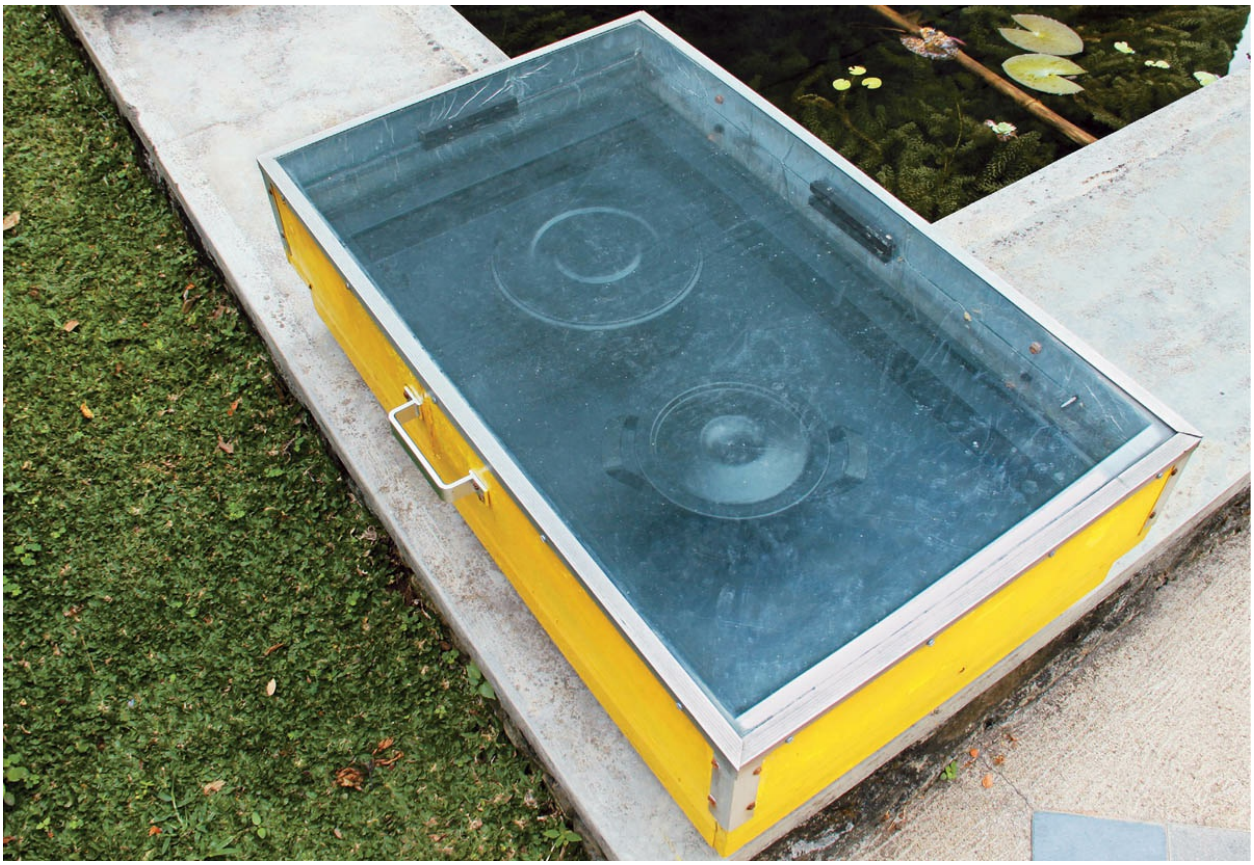
Solar Oven

If you live in a place with ample sunlight, a solar oven can be a good investment. Although I live in the cold, damp Northeast, I do have an excellent solar oven. At the height of summer, it's useful for heating food with a high moisture content or foods that aren't hurt by long cooking at a low temperature. I have never had success with cookies or breads in a solar oven; it just doesn't get hot enough, and they turn out gummy and undercooked.

I had better luck when I turned the oven every 15 minutes or so to keep up with the movement of the sun. It was time-

consuming and still not productive. If you live in Arizona and want to buy a used sun oven, give me a call. If you do decide to invest in one, there are a few tricks to get the most out of it.

- **GET THE PROPER PANS.** They should be black metal and have a lid. They should also be lightweight; otherwise, all your initial heat will be used to heat the pan rather than the contents.
- **HAVE A THERMOMETER TO KEEP TRACK OF THE TEMPERATURE INSIDE YOUR OVEN.** If it drops too low, your food won't cook properly, and you risk bacteria growth.
- **PLAN ON MEALS WITH A HIGH WATER CONTENT.** Liquids heat faster than solids.
- **COOK DURING THE HOTTEST PART OF THE DAY.** From 10:00 a.m. to 2:00 p.m. the sun's rays are the strongest.
- **ELEVATE YOUR STOVE OFF THE GROUND.** Putting it on a wagon or garden cart will allow you to turn your oven to take best advantage of the sun. Wind will draw heat away, so some protection might help. You can also set the stove on top of an insulated board to prevent heat transfer from the stove to the undersurface.
- **DON'T OPEN THE LID TO CHECK FOOD OR TEMPERATURE.** Every time you do, heat is lost, and your food will cool down.



ABOVE: *solar oven*

SHOPPING LIST

Your shopping list for the week is all about cooking in hard times.

CAST-IRON COOKWARE. Often inexpensive and easy to find secondhand, cast-iron cookware is your friend. I have cast-iron pans that belonged to my mother. It is the only cookware that holds up to the rigors of woodstove cooking.

POT HOLDERS. Pot holders are underrated. The possibility of burns is amplified anytime you are using an alternative cooking method. It's worth investing in a pair of heavy-duty, elbow-length, fireproof mitts or gloves.

STICK MATCHES. Hardwood stick matches can be purchased in a sleeve of three boxes at supermarkets and hardware stores. I store most of mine just as they come, but I do keep a couple of boxes in glass jars for moisture protection. Extra boxes are great to hand out to neighbors who don't share your foresight.

BOOKS. Cooking on a woodstove or even a campfire is as much art as science. There are many good books on the subject. I love ***Woodstove Cookery: At Home on the Range***, by Jane Cooper, and ***Cooking on a Wood Stove***, by Joan Donaldson.

CHAPTER 24

PLAN A DAY OF EMERGENCY MEALS

Prepare all your meals for a full day using an alternative cooking method. No cheating with the microwave!

ABOVE: *whole milk powder*

The storm rages, but the house is quiet, as the power went out hours ago. Everyone is hungry. Now what will you eat? It's one thing in theory, but making a meal from pantry ingredients while your kids are clamoring for chicken nuggets is something else entirely. It makes sense to practice. For inspiration, check out hard-times cookbooks such as those from the Depression or World War II for great meal ideas during a crisis.

Breakfast

I'm going to assume you have plenty of water, canned juices, nonperishable milk, coffee, tea, and hot chocolate to drink. If you have stocked some dehydrated eggs, just-add-water pancake mix, canned fruits, dried fruit, oatmeal, and baking supplies, you have the ingredients for some delicious breakfasts. Lots of families have breakfast for dinner, but how about dinner for breakfast? Learning to bake in a Dutch oven or splurging on a stove-top oven greatly expands your repertoire of meals by letting you bake muffins and breads. (See also Learn to Cook in a Crisis.)

Stove-Top Muffins

Dress up a good just-add-water muffin mix with dried fruit, nuts, or a small can of pineapple. Canned bacon bits are a nice addition. The trick is cooking the muffins without an oven. This is a good time to pull out that stove-top oven and give it a try,

following the instructions that come with it. I have had some success with dropping the muffin batter onto a griddle, covering the muffins with a Dutch oven, and cooking them rather like a thick pancake.

Pumpkin or Apple Pancakes

Make pancake batter from a mix according to package directions or from scratch using reconstituted milk and dehydrated eggs. Powdered egg whites work, too, but add a bit more oil or other fat. Add as much as 1 cup of canned pumpkin and some cinnamon, nutmeg, and cloves to the batter. Fry as usual and serve with syrup and canned fruit. Or start with any just-add-water pancake mix, adding chopped fresh or rehydrated dried apples and a teaspoon of cinnamon to the mix.

Flour Tortilla Roll-Ups

Tortillas are easy to make. This is a good recipe to know, as it satisfies your longing for bread without the time commitment or the oven. Mix 2 cups of flour with a pinch of salt and 1 teaspoon of baking powder. Cut in 1/4 cup of shortening or oil. Lard is infinitely better than shortening, but it must be kept cool. Some people don't bother with the fat, but it improves the texture. Add 1/2 cup of warm water and mix well. Cover the dough and let it rest about 30 minutes. Heat a skillet until quite hot.

While the skillet heats, divide the dough into eight balls and roll each out into a circle on a floured board. Fry in a dry pan until brown spots appear on the bottom. Flip the tortilla and cook on the other side until done. It takes some experimenting to get the tortillas just right. While they're still hot, you can fill them with just about anything. Nut butter and honey is good, or go savory with refried beans and salsa. Apple-pie filling is delicious, too.

Lunch

It's easy to fall back on canned pasta and boxed macaroni and cheese, but with a well-stocked pantry, you have a lot of other options. Set a hearty soup on the back of the woodstove to simmer all morning, or heat up canned soup quickly on the camp stove. Either way, it will probably be more welcome than another box of fluorescent orange pasta.

Many pantry-based soups call for “cream of something” as a base. You can either stock up on those soups when they are on sale or make your own. Have lots of canned stock, tomatoes, beans of every kind, and dried or canned vegetables on your shelves. Add some quick-cooking grains and some fun extras like wine, Asian vegetables, and croutons, and you can have a tasty meal in minutes.

White Beans with Vegetables

When you don’t have meat, beans provide the protein and staying power for an afternoon of shoveling or home repairs. Be sure to have on hand some tiny quick-cooking pasta (like orzo or stelline), canned vegetables, and good stock. If you don’t have whole garlic, the powder will do.

Cook some minced garlic in a splash of olive oil for about 30 seconds. Add 4 cups of vegetable broth and a can of drained and rinsed white beans. Spice it up with whatever you like. Some red pepper flakes are good, and perhaps 1 teaspoon of Italian herbs. Bring this to a boil, then add 1/2 cup of some small pasta. When the pasta is tender, add a can of vegetables.

Clam Chowder

The secret to a nice, creamy chowder is using evaporated milk in place of cream. You can certainly get better chowder on Cape Cod, but this is surprisingly good and far superior to the gluey canned chowder you might have tried.

Sauté diced onions in oil. Cook diced potatoes in chicken broth. Add a can of clams and the onions, and thicken with evaporated milk. Top with shelf-stable bacon bits.

Tortellini with Chicken and Greens

This soup is fast, easy, and delicious. Cook dried cheese tortellini in chicken broth. When the pasta is tender, add a can of canned chicken and a can of drained leafy greens, such as chopped kale or spinach.

Mushroom Soup

You can find more varieties of canned and dried mushrooms in grocery stores than you used to. Stock up on several kinds. We love shiitake, button, and straw mushrooms. If you want to try your hand at dehydrating, mushrooms are a great way to start. They dry quickly, and the flavor is intensified. Buying dried mushrooms is far more expensive than doing it yourself.

Sauté some onions in a bit of oil. Add some cooking sherry and some thyme. Bring 4 cups of vegetable or chicken broth to a simmer, and add 20 to 30 ounces of dried or canned mushrooms to the broth. (If using canned mushrooms, drain them first.) Take the soup off the heat and add evaporated milk until the broth is as creamy as you like.

SNACKS ARE IMPORTANT, TOO

Snacks have a bad reputation. They are often equated with junk food, but that doesn't have to be the case. Snacks provide valuable interest, calories, and nutrition to your diet. They have a role to play in raising flagging spirits. If you are on the road or eating under challenging circumstances, snacks eaten out of hand can even replace meals. Planning for them is an important part of your preparedness meal pantry.

The easiest snacks are those that require nothing but opening a box, bag, or jar. Dried fruit and nuts all have a long shelf life. Add in chocolate chips and granola for a grab-and-go meal. Bite-size candy bars and wrapped hard candy are good to tuck in your evacuation bag. Granola bars, pretzels, and crackers

need to be rotated often but are good to have around. Peanut butter used as a dip adds a protein boost. Hot-chocolate mix with marshmallows is a warming treat, as are herbal teas.

If you have a stove, popcorn is a perennial favorite, especially if you add some of the shake-on flavors. We are fond of nutritional yeast on our popcorn.

In addition to out-of-hand snacking, it's nice to have a repertoire of dips and spreads, no-bake cookies, and candy to liven up an afternoon of Scrabble by the fire.

CHOCOLATE BARK. If you can melt chocolate, you can make this. Melt 2 cups of semisweet chocolate chips over, not in, simmering water. Spread the melted chocolate on a baking sheet lined with parchment paper. Sprinkle with broken pretzels, graham crackers, nuts, dried fruit, or coconut, and let cool. Break into pieces.

CHOCOLATE PUDDING. You might notice a theme with chocolate. Dutch-processed cocoa stores well. Mix 1/2 cup of sugar, 3/4 cup of cornstarch, and 3 tablespoons of unsweetened cocoa powder in a saucepan. Add 2 1/4 cups of milk and whisk over low heat until thickened. Remove from heat and add a pinch of salt, a splash of vanilla, and 2 tablespoons of butter (optional). Let set. The milk can be reconstituted or evaporated (mixed half-and-half with water).

NO-BAKE COOKIES. My kids loved making these after school, and I liked that they had some good-for-you ingredients. Bring 1 3/4 cups of sugar, 1/2 cup of butter, 1/2 cup of milk, and 4

tablespoons cocoa powder to a boil. Cook for 1 1/2 minutes and remove from heat. Add 1/2 cup of crunchy peanut butter and 3 cups of quick-cooking oats. Drop from a spoon onto parchment paper and let cool. If you don't have butter, you can substitute coconut oil.

PEANUT BUTTER BALLS. Mix together 1 1/4 cup of honey, 1 1/2 cups of peanut butter, and 4 cups of powdered milk. You can add nuts, shredded coconut, or chopped dried fruit. Roll into balls, and chill until firm.

SMOTHERED FRUIT. If you have a lot of canned fruit, this is a less boring way to serve it. Warm canned pears or peaches, and drizzle with melted chocolate. We like to add a bit of coconut oil to the chocolate. Sprinkle with chopped nuts.

WHITE BEAN DIP. If your taste runs to salty rather than sweet, try this savory dip. Mash 2 cups of cannellini beans, 3 cloves of crushed garlic, 2 tablespoons of lemon juice, and 1/2 cup of olive oil until creamy. A hand-cranked food processor will make a creamier dip. This is good with tortilla chips.

Dinner

It may not be steak and potatoes, but you can still share a hot meal with your loved ones. Cucumbers are not the only vegetable that can be pickled, so try adding some less-familiar pickled vegetables to give your meals some crunch. We love pickled beets, carrots, and asparagus, and sauerkraut is a perennial favorite.

While your options will be limited, you can find some canned meats and fish: turkey, chicken, chipped beef, ham, shelf-stable sausage, Spam, tuna, salmon, sardines, and herrings. Home-canned meat is a staple around here. We buy stew beef in bulk and spend a day or two canning it up. What a treat when the power is out and we want stew!

With limited meat, it's a good idea to have a few vegetarian recipes to draw from; many call for pantry foods like grains, pasta, and beans. To save cooking fuel and water, opt for canned beans and quick-cooking grains.

Stock up on jarred and powdered sauces. There are many to choose from. I keep teriyaki, orange sauce, and sweet-and-sour sauce on hand, as well as a variety of powdered gravies.

Tuna Noodle Casserole

This is a classic, pantry-friendly dish. Cook 8 ounces of egg noodles according to the package directions. Add a can of drained tuna fish, a can of creamed soup (mushroom, chicken, or celery), and a can of drained peas. Heat through and top with crushed cornflakes or Chinese noodles.

Black Bean Patties

The secret to cooking these without having them fall apart in the pan is to coat each patty in corn meal before frying it. Mash a can of diced white potatoes with a can of drained and rinsed black beans. Mix with a bit less than 1 cup of Italian-style bread crumbs to act as a binder. Dredge in cornmeal and fry in a hot pan. With fried canned potatoes on the side, it isn't a hamburger and fries but it's still darn good. You can serve them with ketchup if you must, but barbecue sauce is much better.

Chicken and Gravy

Some meals just spell comfort, and chicken and gravy is one of them. I can my own chicken, but you can buy it in large cans. Bring 1 quart of chicken and broth to a simmer. In a small bowl,

add 2 tablespoons of cornstarch to 1 cup of milk. Let that sit for a minute. Add carrots, mixed vegetables, or green beans to the chicken and broth, and give it a stir. Add the cornstarch and milk, and continue to simmer until thick. If you have poultry seasoning, add 2 teaspoons to the broth. Serve over rice, noodles, or potatoes.

MEAL TIPS FOR CHALLENGING TIMES

- **SET THE TABLE.** The plates may be paper and the meal rather pedestrian, but a pretty table can make everyone feel better.
- **GIVE THANKS.** Even if you usually forgo grace or are not at all religious, taking a moment to express gratitude sets the stage for a calmer meal.
- **AVOID DISCUSSING TERRIBLE NEWS AT THE TABLE.** Disaster may be on everyone's mind, but you all deserve a break.
- **TAKE YOUR TIME.** Eat slowly and enjoy your family's company. The crisis will be there in the morning (and probably the next morning and the next).
- **CLEAN UP AS BEST YOU CAN.** Keeping your common space tidy creates a sense of calm and order and will make preparing other meals easier.

ABOVE: *Some potted herbs on your kitchen windowsill will perk up your cooking.*

CHAPTER 25

KEEP YOUR FOOD SAFE

Make sure your home food supply will stay safe when the power goes out.

It's a terrible feeling. The wind is howling and the snow blowing. The lights flicker and then go out, leaving your home dark and silent. The hum of your appliances is so ubiquitous that you don't even notice it until it stops. Preparing to keep your home food supply safe begins well before the power goes out.

Good Practices

PURCHASE A THERMOMETER. Your refrigerator should be kept below 40˚F (4˚C) and your freezer set at 0˚F (–18˚C). With a thermometer, you can assess how warm your refrigerator or freezer gets if the power is disrupted, which will help you determine when your food is no longer safe to consume.

FREEZE CONTAINERS OF WATER. A full freezer will stay cold much longer than a half-empty one. You can freeze water in zippered bags and tuck them into odd corners of your freezer so that there is no dead air space. Freezing containers filled with water has the added benefit of providing you with more drinking water as it thaws.

BUY A GOOD COOLER. If the power remains out for an extended period, it will be easier to keep at least some food fresh in a small cooler with ice packs than in a large refrigerator.

KEEP YOUR REFRIGERATOR CLEAN AND ORGANIZED. Cleanup will be much easier to deal with if you don't have a refrigerator filled with aging leftovers.

KEEP A FREEZER INVENTORY. If you lose your food and want to file a claim on your insurance, a freezer inventory will give you an idea of the value of what was lost. If you store like items together, it will be much easier to determine the safety of each category after the storm.

Before and During a Storm

If it seems that losing power is likely, move commonly used items like milk, butter, eggs, and lunch meat to a cooler well stocked with ice. Then you can keep the door to the refrigerator shut. Some things in your freezer will thaw faster than others. Remove and eat things that won't last long, like berries and ice cream. Fill the empty space in your freezer with containers of water, which will freeze and help keep the rest of the contents cold.

If the power goes out, keep appliance doors shut. A strip of tape or a sign on each door will remind your family not to open it. Every time the door is opened, cold air falls out and warm air rushes in, rapidly raising the temperature to unsafe levels. A closed refrigerator will keep food cold for several hours without electricity. If the doors are opened even once, the time is cut in half, though a chest or drawer model is more efficient at preserving its temperature. A fully loaded freezer will keep food frozen for 48 hours if left closed.

After Power Is Restored

Check your food for safety. If the power was out for less than four hours, most of the food in your refrigerator should be fine as long as the door was kept shut the entire time. To be safe, discard the most perishable foods like milk, seafood, and lunch meat as soon as possible. If the weather is very warm, you will want to discard questionable food after only one hour without power.

Food in your freezer must still contain ice crystals to be safely refrozen. If thawed but still very cold, meat can be canned or cooked. You can check the internal temperature with a meat thermometer. It must register no higher than 40˚F (4˚C) to be considered safe. It would wise to cook any food until well done.

Check each package, as small packages of ground meat and fruits or vegetables will thaw more quickly than large roasts will. Food may look fine and smell fine but still be harboring bacteria that can cause food-borne illness. When in doubt, throw it out!

ABOVE: *After a power outage, cook thawed meat right away; toss it if you have any doubts.*

FOOD SUPPLIES AFTER A FLOOD

Food-borne illness can be deadly. Do not eat food that has any contact with floodwater. It will not be clean and can harbor dangerous pathogens. Dry food is particularly vulnerable to dampness and mold.

Be careful of your hygiene when handling any food that may have spoiled or been contaminated. Use gloves if possible and keep soiled hands away from your face. Wash hands often in warm, soapy water.

If cans or aseptic food containers are waterproof and undamaged, you can still use them if you follow the recommendations of the U.S. Department of Health and Human Services. Remove the labels and wash the containers in hot, soapy water. Make a solution of 1 tablespoon of bleach per gallon of water. Immerse the containers for 15 minutes. Air-dry for one hour before relabeling. Consume as usual, but use this food as soon as possible.

Treat all cooking and eating utensils as contaminated if they have had any contact with floodwater. They must be sanitized before use.

CHAPTER 26

HOW TO HANDLE GARBAGE

Determine how you would handle your garbage in a crisis. Think about ways to reduce the amount of garbage you produce in the first place.

Most of us are used to pretty much ignoring our garbage. We toss the flotsam and jetsam of lives into a bag and once or twice a week either we take it to a refuse center or someone in a big truck comes by and takes it away. It is hauled off to be crushed or burned or buried or otherwise hidden away. Should things shut down, we would soon learn that the only "away" is right in front of us. The 4.5 pounds of garbage the average American generates every day will become a problem.

The smell of uncollected trash will be horrendous, especially if the weather is warm. Even in cold weather, animals will be a problem. Garbage will attract flies and rodents, both of which carry disease, as well as every dog and cat in the neighborhood. In the interest of health and safety as well as aesthetics, you must have a plan for dealing with your refuse if it looks like your crisis is going to last longer than several days. Given that medical services would also be limited, knowing how to deal with garbage could become a matter of life and death.

I suggest a three-step process: sorting, burning, and burying.

SORTING. There are three basic categories of trash. The first is paper products. This includes anything that can be safely burned. However, be sure that paper plates and cups are not coated with plastic before tossing them in the woodstove or an outdoor fire pit.

The next category includes things that can be recycled like glass, some plastics, and metals. Discard any liquids that might remain in containers; most can go down the drain or outside on the ground. Fats and oils can be stored in covered containers until they can be disposed of.

The third category includes anything that can be composted and will biodegrade quickly, like apple peels and salad greens, as well as more problematic items such as food that will rot before decomposing. Products contaminated with human waste, such as disposable diapers, will be your biggest issue.

BURNING. You can burn most paper products in your woodstove and generate some BTUs for cooking and heat, or you can build an outdoor fire pit. If an item can't be burned, composted, reused, or recycled, set it aside to wait for services to be restored as long as it's clean and dry. I'm thinking about things like Styrofoam and some plastics. Think about recyclability when purchasing bulk items like disposable tableware.

BURYING. Burying garbage will not be necessary unless a crisis goes on for a very long time. If accumulated trash smells terrible, is attracting animals, or is covered with flies or maggots, you can dig a hole and cover over anything that can't be burned or composted and now poses a health threat. Use heavy-duty plastic bags. Be sure to choose a site that is well away from your water source. Dig a hole a foot or more deep. The goal here is to keep animals from digging it up. Cover with soil.

CAN I BURN IT?

Check your local ordinances to see if fire pits are legal. If so, build one now so you can learn the intricacies of working with an open flame should you need to burn trash. Be sure to

instruct your children about fire safety, and don't use a fire pit when brushfire danger is high.

Shop Wisely

Begin to make purchasing decisions that cut down on how much trash you produce in the first place. Prepare food with an eye toward reducing food waste, and choose reusable over single-use disposable products. In a crisis situation, this is a bit of a balancing act. On the one hand, buying disposables is better if you are trying to conserve water. On the other, buying reusables is more environmentally responsible and cuts down on garbage. In general, we make our choices based on trying to live lighter and more sustainably, but I do keep some disposables on hand for emergencies. You will make your own choices.

On that note, it is possible to purchase biodegradable garbage bags and disposable diapers, among other products. They are a lot more expensive, but I think the cost is justified. Eventually, everything you bury will decompose except the plastics, which can leach into the soil and eventually the water system.

Start Composting

Anything that can be composted should be. Now, while the lights are on, is a good time to create a composting system for your home. You can buy one, of course. They are pricey, but I have

one, and it works really well. I got it because our main compost pile is out near the garden and getting to it in the winter was a chore. It was such a chore, in fact, that I didn't always make the effort, so this was a good spend for me. A small kitchen composter can handle daily amounts of plant and vegetable matter. This is really just an attractive container to corral vegetable wastes, coffee grounds, tea bags, and eggshells until they can be moved outside. In warm weather they begin to smell and attract fruit flies very quickly, so they need to be emptied daily.

BUY AHEAD

- Large, heavy-duty garbage can with a locking lid
- Backyard composter

- Countertop composting system
- Heavy-duty trash bags in a variety of sizes
- Dedicated bins for recyclables
- Burn barrel
- Spray for controlling odors
- Insect spray to control flies

Think about Your Impact

Much of dealing with trash is creating less of it. That's easier than it used to be, as more companies are taking this into consideration with packaging. Food waste is the hardest thing to manage; working with your family now to reduce the amount of food you toss out will pay big dividends both financially and with your carbon footprint. The more you make and cook from

scratch, the less packaging waste you produce. All of these practices will make dealing with waste disposal less complicated in case of an extended emergency situation.

BUILD AN EASY COMPOSTER

You can build an outdoor composting system from four wood pallets in an afternoon. Three sections allow you to dedicate one section to a pile you are creating, one to a pile that is cooking, and the third for finished compost.

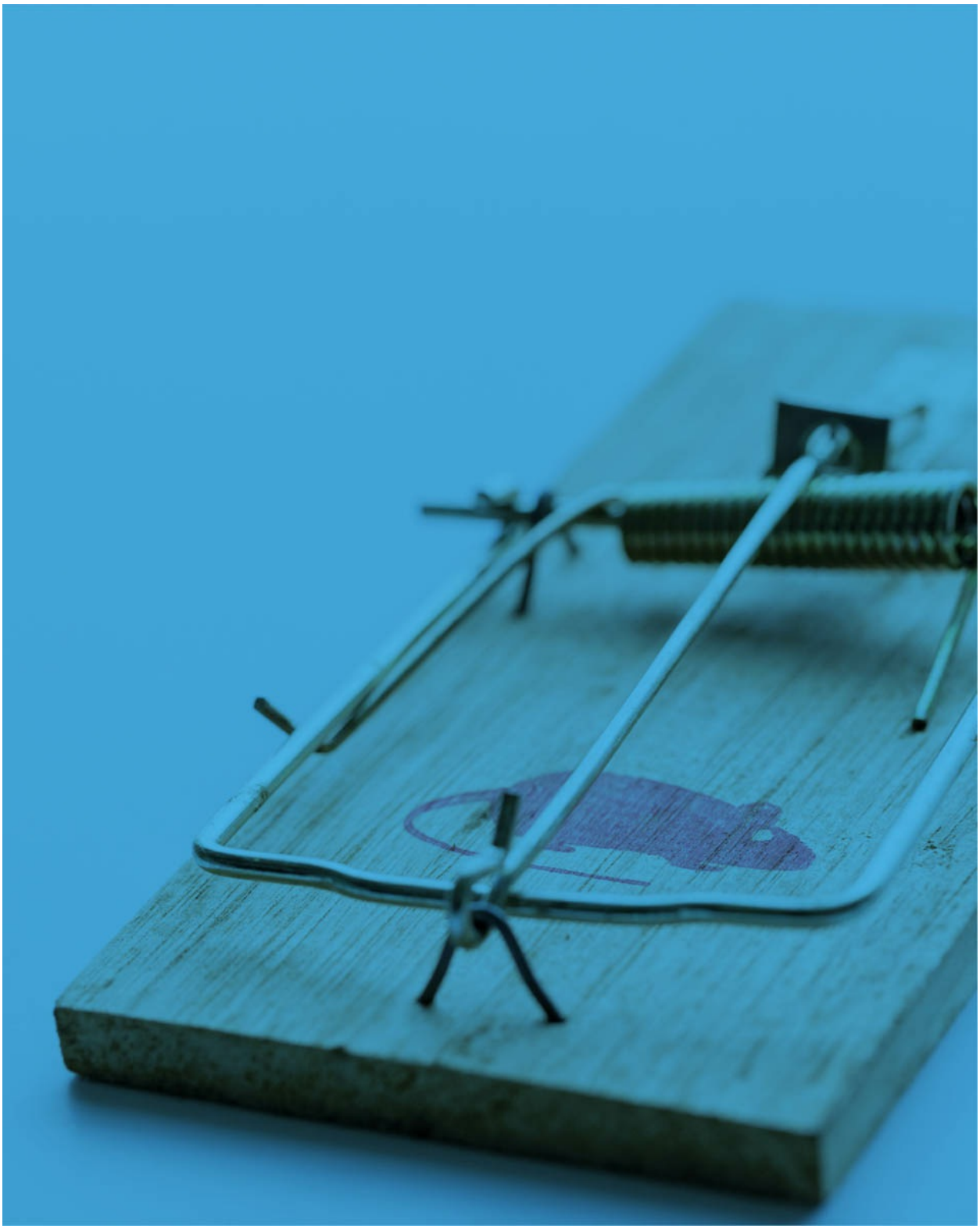
You can make a smaller composting system using a 30-gallon trash barrel. Drill some holes around the bottom for drainage and begin with a 6-inch layer of brush or small sticks for air circulation. As you fill up the can, give it a good roll around every few days.

For either system, you need layers of brown matter (dried vegetation) and green matter (most of what you will be producing inside along with yard waste and grass clippings). Keep the compost as moist as a wrung-out sponge, and let the air circulate. Once the bin is full it will take about six weeks to decompose. During this time you can be building a second system. When it's finished you can add the rich soil to your garden beds. Your plants will thank you.

CHAPTER 27

KEEP PESTS AT BAY

Check your defenses against insects, rodents, and other pests that are likely to proliferate in a crisis.



It is tempting to believe that we live in a world immune from the pests that plagued people in earlier times. We don't. Those pests are out there just waiting for an opportunity to invade your world. An extended crisis will provide that opportunity.

Mice, rats, mosquitoes, and even cats and dogs can become far more than a nuisance. They can be vectors for dangerous diseases, cause wounds that become medical emergencies, and do serious damage to your home and food supply. While services are up and running, these pests are generally kept at bay, but if trash pickup doesn't happen or if standing water attracts insects, things can change quickly. It makes sense to prepare ahead for potential problems.

RODENTS. Rodents carry lice, fleas, rabies, and worse things like plague and hantavirus. They can be aggressive and may bite. If they find a source of food, rodents will be relentless. They breed quickly, with 2 becoming 20 in a matter of weeks.

Your first line of defense is your home. Check for entry points, remembering that rodents can squeeze through extremely small openings. We had a mouse that found a way around some newly installed plumbing under the sink. It was an easy matter to seal those openings, and the problem was solved.

Be careful with trash disposal. If you must keep trash outside, it needs to be in a metal or heavy rubber receptacle. Rats can chew through almost anything eventually. They are strong, smart, tenacious, and not deterred by much. Raccoons can be worse. I have seen them manipulate complicated locks to get into a food source.

It’s wise to have several traps on hand. Rat traps are large and can seriously hurt a child, a dog, or a cat, so set them in areas away from kids and pets. When checking the traps, wear heavy gloves so that you can dispose of dead rodents without touching them.

Mice look adorable, but they lose their charm when you hear them gnawing inside your walls. If you hear one mouse, you probably have dozens. We once stored dog food in our garage. Within weeks, mice had gotten into the walls and even the car, doing thousands of dollars’ worth of damage to the electrical system. We caught 1 mouse a night until we got a trap that could dispatch 12 at a time. It was full every morning for nearly a week, and then they were gone.

Aside from the common snap traps, there are other kinds of traps. I do not like the baited adhesive traps. When the rodent takes the bait, it gets stuck to a strong adhesive. Death can be slow, and the terrified animal will struggle to escape. I may not like rats or mice, but I want no animal to suffer because of my choices.

Poisons such as those manufactured by d-CON are deadly to more than rats and mice, so keep them far from children and pets and follow all safety precautions for use and package disposal. The benefit of poison is that the animals die quickly, but they may crawl under the house before doing so, which creates a bad smell for weeks.

INSECTS. Some food comes into the house carrying hitchhikers in the form of roaches, pantry moths, and other food-specific pests. Freezing your grains, seeds, and beans prior to packing them for long-term storage helps to prevent infestations. Pick up some pantry moth traps. I keep one in each cabinet and one in my large pantry. You will want to have extras in case something slips by you and an infestation happens.

Flies carry diseases and can multiply when trash is around. Keep screens on your windows and invest in a good fly swatter as well as old-fashioned flypaper strips.

More than an itchy nuisance, mosquitoes also carry diseases like malaria, equine encephalitis, and Zika. As the climate changes, insects are moving to areas they didn't live in years ago, bringing these diseases with them. Flooding will leave standing water, providing breeding areas for them. Your best

defense is to use insect repellent whenever you go out during mosquito season. Remove any standing water, and check into floating disks that prevent mosquitoes from breeding.

I can't discuss pests without mentioning ticks and tick-borne illnesses like Lyme and Powassan. The best way to avoid ticks is to use tick repellents. If you must venture into an area known to have ticks, cover arms with long sleeves and tuck pant legs into socks. If you find a tick, remove it with fine-tipped tweezers held as close to the skin as possible. Pull up with a steady pressure, and then wash the area and your hands thoroughly with warm, soapy water or hand sanitizer. Do daily tick inspections if you live in an impacted area.

STRAY CATS AND DOGS. Even family pets can be aggressive when stressed by a disaster, especially if they are lost and disoriented. They will be attracted by trash. Never approach an animal, even a familiar one, until you are sure it's safe.

WILD ANIMALS. Natural disaster disrupts wildlife. Forest fires chase animals out of their usual habitat, and floods carry creatures along with debris. High winds often blow birds many miles from their usual habitat. Be mindful before going into the water or putting your hands into areas you can't see. Keep a close eye on children and pets to prevent injury. An animal may look pitiful but still be aggressive and pose a threat. If you are worried about a wild animal, call animal control and let professionals see to the rescue. Include a contact number for animal control in your contact list.

CHAPTER 28

CONNECT WITH YOUR COMMUNITY

Explore ways you and your neighbors can support each other.

None of us lives in isolation. At least I hope we don't. We all need a community. In times of crisis in particular, we rely on the support of those around us to cope and recover. With families so often separated by long distances, our friends and neighbors become our support system. Figuring out our role in the place we live is an important component of being prepared and resilient.

Here are some ways to create and build community, no matter where you live.

GET TO KNOW YOUR NEIGHBORS. Smile and say hello. Bring a loaf of bread to the new neighbors. Shovel their sidewalk when you are doing yours. Share some of your garden produce. Host an informal potluck dinner.

HELP YOUR NEIGHBORS. See what needs doing and do it. Plant flowers in front of the school or rake the lawn of the senior center. Organize a community cleanup day.

BE A VOLUNTEER. Read to a preschool class or start a 4-H club. Ask what the food bank needs. Coach a ball team or drive for a senior citizen. There is always a place for willing hands.

GET INVOLVED IN LOCAL POLITICS. Learn how your town is run and find out who's running it. Attend town meetings and understand the issues. It's your community. Take ownership.

FIND LIKE-MINDED PEOPLE. Look for groups with interests similar to yours. If there is an existing club, join it. If not, start one. Peruse bulletin boards and message centers in the lobbies of

public spaces like libraries, churches, and markets. Many towns have Facebook pages that list coming events and meeting times.

GET TOGETHER

Organizing a kids' jacket and clothing swap for your neighborhood or school is a wonderful way to acquire needed outerwear and other items while connecting with your community.

Can Your Community Handle a Crisis?

Most communities have an emergency response plan. Some have a community emergency response team (CERT) in place. Do the research to see who is running your local CERT. Often, it's coordinated through the fire department. CERTs are always looking for volunteers to help in various aspects of the team plan. They offer many training opportunities.

I took an online course through FEMA and got the certificate that allows me to participate in my local CERT. The training is free and accessible. I received extra training in first aid, CPR, and response organization. I also had input into determining how and where to position supplies to best respond to vulnerable citizens in a crisis.

Once you get involved with your community preparedness plans, you can explore opportunities with regional, state, and federal response teams. Every state has such teams, which are critical in responding to large-scale disasters. There is always a place for people willing to participate in educational opportunities.

GET INVOLVED

The list of work that needs to be done is very long. Here are some organizations offering volunteer opportunities you might not have thought of.

- **RED CROSS.** The Red Cross does a lot more than collect blood. It offers local volunteer opportunities, as well as teams that travel.
- **HABITAT FOR HUMANITY.** This international nonprofit organization built more homes after Hurricane Katrina than any other organization.
- **FOOD BANKS.** Food banks and food pantries are responsible for ensuring that our most vulnerable citizens, especially the elderly and children, are eating.
- **4-H.** The 4-H network is wide and not limited to country kids. It's all about skill building.

- **SCOUTS.** “Be prepared” is (no surprise) my favorite motto! Scouting groups emphasize skills, confidence, and leadership. Often Scouts take a role in disaster response.
- **FAITH-BASED INITIATIVES.** Many communities of faith offer sleeping space and meal distribution during times of crisis.
- **VOLUNTEER FIRE DEPARTMENTS.** Many small towns that can’t afford paid staff rely on volunteers for fighting fires. There are never enough, and the service is critical.
- **POLICE AND FIRE DEPARTMENTS.** Some police and fire departments have an auxiliary organization that provides support to frontline responders.
- **ANIMAL RESCUE GROUPS.** Animals suffer in any disaster. Pets need to be fed, housed, and either united with family or rehomed. Wild animals may need help, too. For example, after oil spills, volunteers may wash waterbirds and rehabilitate them for return to the wild.

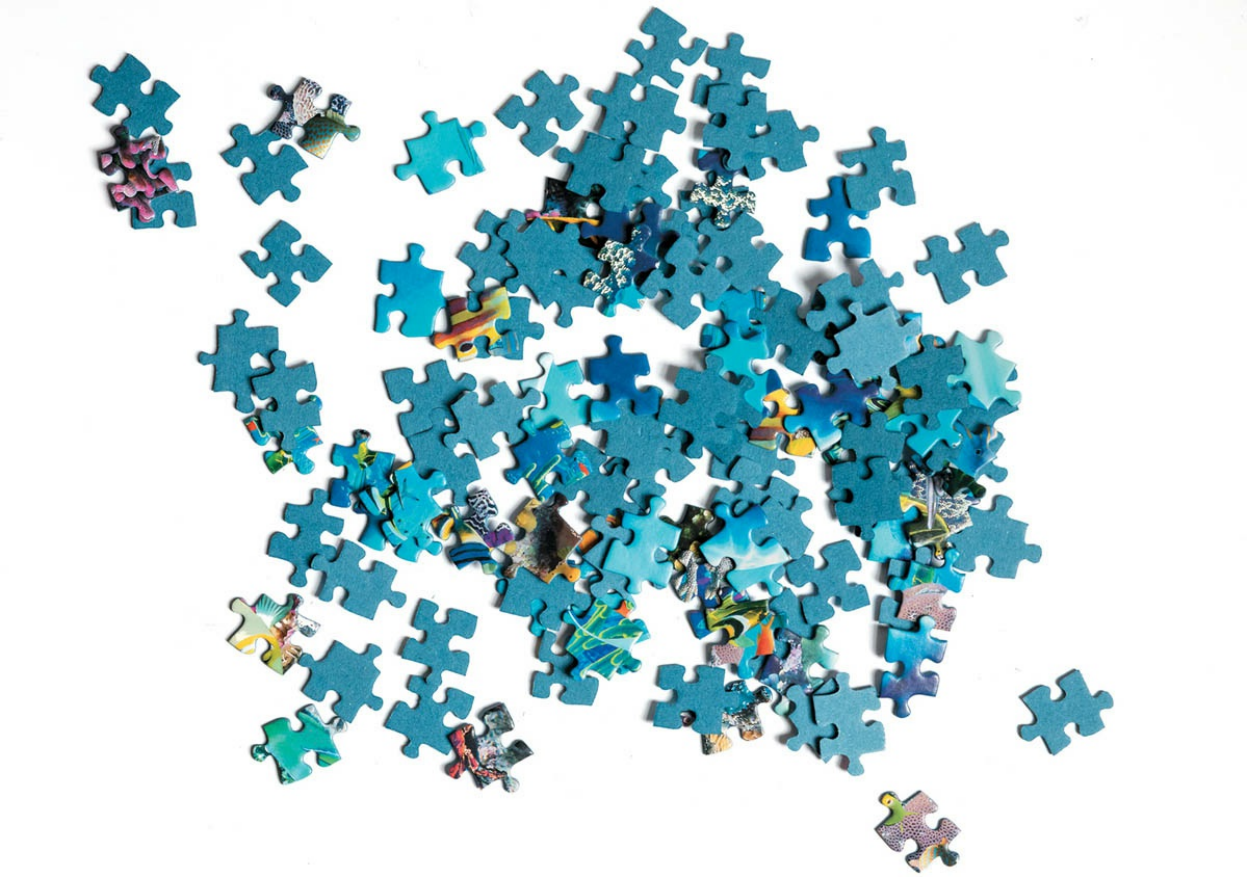
CHAPTER 29

PLAN FOR ENTERTAINMENT AND CELEBRATION

Reflect on the value of entertainment and celebration when times are tough.

So many of us are addicted to technology. With computers, tablets, and smartphones, we are constantly connected. Our televisions offer thousands of channels to surf through. Our kids are not exempt. Instead of getting outside to play with a gaggle of neighborhood kids, many children are likely to be inside engaged in online role-playing games with strangers from around the world. When not plugged in, they are often scheduled. Lessons and structured sports, tutors and arranged playdates have taken the place of spontaneous entertainment.

A crisis that causes an abrupt withdrawal from those familiar pastimes can be hard on everyone. It's a good idea to practice being unplugged, not just in terms of being prepared but as a way to embrace family time and togetherness.



SET A GOOD EXAMPLE. You can begin by looking at your own habits. If you're a technology addict, it's going to be hard to take the moral high ground. Set aside some technology-free times and spaces, and stick to them. We allow no technology at the dinner table and will not answer the telephone. When friends come to play, tablets are off-limits.

OFFER GOOD ALTERNATIVES. Puzzles, games, art supplies, and books should be available for kids to explore. If they are put away, they will be forgotten. Mix it up by starting a neighborhood swap of books and puzzles. We swap puzzles with the senior center up the street and books with other homeschool families. The book may be used, but if it's new to us, who cares?

Start a game night. We have a monthly soup-and-game night with other homeschool families that introduces us to games we aren't familiar with.

Make reading and playing board games nightly rituals. It is so easy to succumb to the lure of television. If you want to avoid it, try a nightly read of a chapter book or game of checkers before bed. This can help everyone relax before bed.

DON'T FORGET MUSIC. Listening to music or, better yet, singing or playing instruments together is a wonderful habit. Some of our family members are musical, while others have, shall we say, other talents, but we all enjoy participating. Collect some sheet music for old standards and just sing. It doesn't need to be good. It needs to be fun.

ENCOURAGE CREATIVITY. Paper, crayons, markers, scissors, glue, and clay can provide many hours of fun. Let your kids try different arts and crafts. Teach them to knit or work with wood. Encourage them to begin a hobby or start a collection. When my daughter realized she could win ribbons at the fair, she became interested in baking. I discovered a passion for felting after a visit to a wool shop.

EMBRACE BOREDOM! Boredom is not the enemy. In fact, boredom and curiosity are important parts of innovation. We really don't owe it to our kids to be responsible for every minute of their day. With skills and materials, none of us should have any trouble keeping occupied even in the absence of electricity.

SPECIAL EVENTS

Disasters don't care about your calendar. Birthdays, anniversaries, and holidays happen whether it's convenient or not. While it may not be possible to have everything just as you are used to, planning ahead will make it possible to celebrate important events even if the lights are out and the roads all closed. What are some of the special events you want to be ready to handle? While you might not be able to celebrate as elaborately as you might like, honoring your traditions will be important.

Sometimes it just can't be helped: The prom is canceled or a longed-for gift isn't there. In that case, acknowledge the loss. Let your children express their anger and sadness. Assure them that you understand and wish the situation were different. You can try to make up for it at a later date. For the time being, recognizing their feelings and offering a shoulder to cry on may be the best you can do.

In the Midst of a Crisis

It's important to include the whole family in preparedness plans. When a crisis hits, give everyone a role and a job. Even very young children can help out. We all feel much more empowered when we feel important and necessary. Perhaps your son can help shovel the neighbors' porch or make a batch of

muffins for them. Your daughter can offer to spend time with younger children or carry in wood. Pets will need extra attention if they can't get outside. Dishes will be washed by hand. There will be lots to do, and it doesn't all have to be done by adults.

CALL ON A FRIEND. Whether you live in a gated community or a high-rise apartment building, a suburban neighborhood or a New England village, it's a good idea to call on your neighbors and get to know them. Even if you can't get in the car and drive to visit your best friend, you may be able to walk next door to share a meal or conversation. Isolation leads to depression. As long as it's safe to do so, get out and about. (Also see Connect with Your Community.)

TAKE ADVANTAGE OF THE FORCED TIME-OUT. We all have those projects we never seem to get to. What a perfect time to sort the family photos or finish those mittens you started last year. During our last blizzard, we were housebound for two days. I pulled out a big box of memorabilia from my husband's family.

We had so much fun reading about a favorite uncle's winning home run and an aunt's election to the honor society in high school. None of us knew that a beloved grandmother had played tennis in college or that a grandfather had been accepted to West Point.

MARK THE EVENT. A crisis can be scary and sometimes tragic rather than entertaining, but it's also a moment in history. Take pictures of what you see happening. Encourage your kids to keep a diary of what they experience. If they aren't writers, perhaps they can dictate to you or an older sibling. Some local news stations appreciate firsthand coverage. Always use discretion and stay out of the way of rescue and repair vehicles. If the authorities ask you to stay off the roads, then don't venture out until it's safe to do so.

ON THE BOOKSHELF

Kids often enjoy stories of survival, which can be a good jumping-off place for discussing why you have a family preparedness plan. You should probably screen any survival-book candidate to determine its suitability for your child. Younger kids may love Gertrude Chandler Warner's Boxcar Children series and Laura Ingalls Wilder's Little House books. Teens will appreciate the themes of the Hunger Games trilogy by Suzanne Collins and the Life as We Knew It series by Susan Beth Pfeffer. Some of these books are tough reads, with mature themes and situations. Here are a few books my kids loved.

- *The Giver* and *Number the Stars*, by Lois Lowry
- *Hatchet*, *Brian's Winter*, and *The River*, by Gary Paulsen
- *Island of the Blue Dolphins*, by Scott O'Dell
- *Lost on a Mountain in Maine*, by Donn Fendler
- *My Side of the Mountain*, *On the Far Side of the Mountain*, and *Julie of the Wolves*, by Jean Craighead George
- *Out of the Dust*, by Karen Hesse
- *The Sign of the Beaver*, by Elizabeth George Speare
- *The Upstairs Room*, by Johanna Reiss

CHAPTER 30

COPE WITH SANITATION

Identify a location for an outdoor sanitation center, and acquire the necessary equipment.

Few people want to discuss their toilet. It has a yuck factor that's hard to overcome, but if you push the handle on the tank and no water fills the bowl, you won't be able to ignore how important it is. Many scenarios could impact your ability to flush. An earthquake could damage water or septic lines. A power outage could disable municipal pumping stations or your well's electric pump. A flood could overwhelm the sewage treatment system.

How does your toilet work? Your tank holds the water for flushing. Depending on your toilet, this can be anywhere from 1.5 gallons for newer, more water-efficient toilets to as much as 7 gallons for a very old toilet. Your waste goes into the bowl. Holding down the handle allows the waste and water to flow out and clean water to flow from the tank into the bowl. The tank refills and the waste ends up in either your home septic system or in a municipal sewage treatment facility.

It takes electricity to keep these cycles flowing unless you have a gravity-feed water supply or a composting toilet. Any breakdown in this closed system, and you have a problem. Human waste carries disease, and the odors become unpleasant very quickly, so it's important to develop a plan for dealing with it.

Make an Emergency Indoor Toilet

Even if water is not flowing, it's a simple matter to flush wastes by pouring a few gallons of water into the tank (not the bowl). This water does not need to be potable, so if you have filled your tub, have a rain barrel (or better yet, a swimming pool), or a supply of stored water, you're all set for at least a few days. (See Calculate Your Water Needs, and Plan for Long-Term Water Usage.) Remind your family that they don't need to flush every time they use the bathroom: if it's yellow, let it mellow. If you can't flush, you will need to move on to Plan B.

Once you've run out of flushing water and used the last flush, the toilet bowl will be empty. At that point, designate one toilet for use for solid waste only and line it with plastic (see below). Tape the lids of other toilets closed to remind everyone not to use them. It is important to keep solid and liquid wastes separate. It is best to use the bag system for solid wastes and a second container for liquids. Liquid waste can be safely poured out away from water sources or even down a drain. If you don't have a separate bucket toilet (see below), this part can be a bit tricky for females, but you can purchase "female urinal funnels" to make the process less messy.

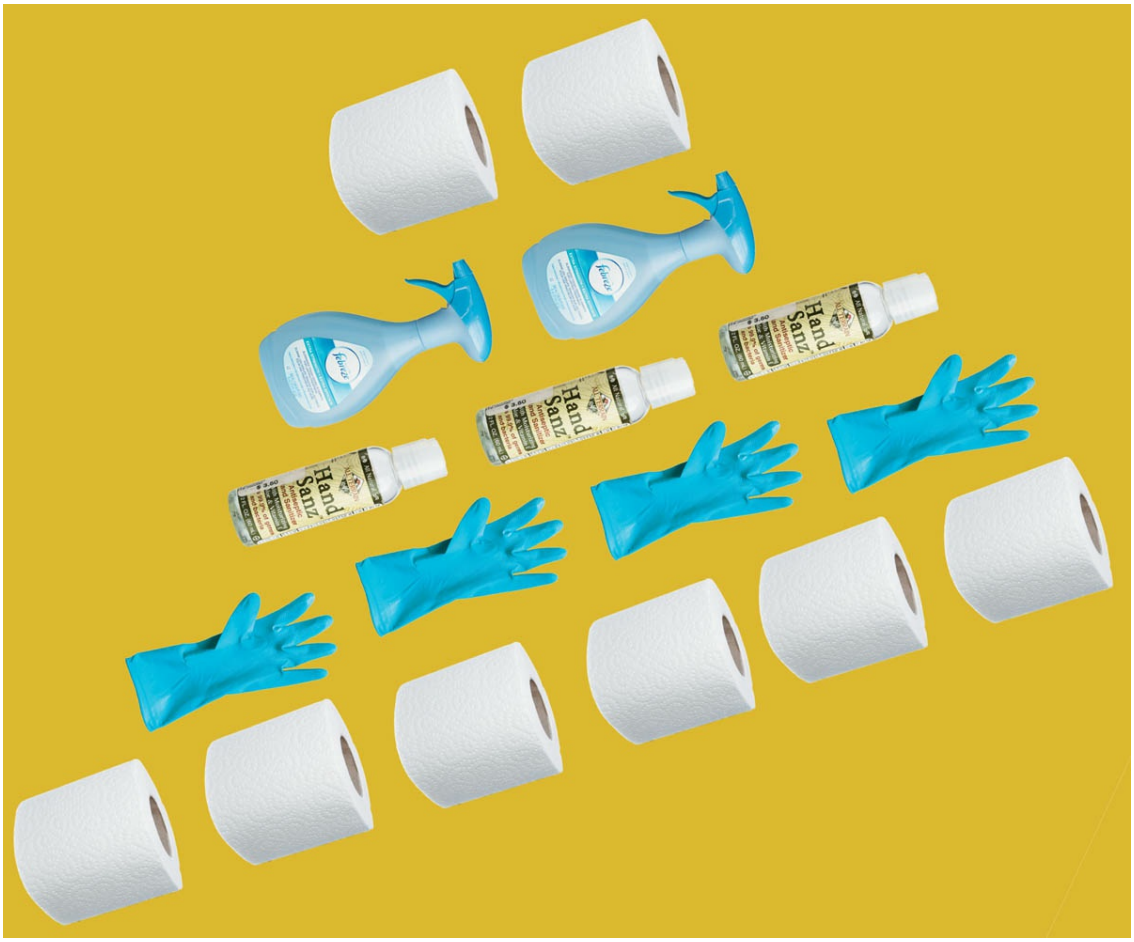
ABOVE: *Cutting a foam pool noodle to fit a bucket toilet is a cheap and easy substitute for a purpose-made toilet seat.*

Line the designated toilet bowl with a plastic garbage bag. You can use heavy-duty bags or go with biodegradable bags, which are available at camping supply stores. Use duct tape to hold the bag in place. Put a scoop of kitty litter in the bottom of the bag. Close the lid between uses. The solids and used toilet paper are covered with a bit more kitty litter at every use. You can also use sand or wood ashes, anything absorbent to keep down odor. When the bag liner is full (but not too full — you have to carry it, remember!), remove it, seal it with a twist tie, and take it outside.

In cold weather, you can leave it in a tightly closed garbage can. In warm weather, you will have to bury it at some point. (Check local laws or contact health authorities first.) Choose a spot away from your water source and dig a hole 2 to 3 feet deep. This does not need to be done unless the weather is warm and the water is not expected to come back on soon.

STOCK UP

- Disposable gloves for handling waste
- Odor-eliminating sprays
- Hand sanitizer
- A couple of bags of kitty litter, sand, or wood ash
- Toilet paper
- Two 5- or 6-gallon buckets and snap-on toilet seats



Go Outside

If you can set up a toilet station outside your house, conditions inside will be far more tolerable. A couple of shower curtains strung on clothesline will give you some privacy. In this situation, a couple of 5- or 6-gallon buckets will save the day. You will be a lot more comfortable if you pick up inexpensive toilet seats designed to snap onto these buckets. Designate one bucket for liquids (no bag needed; just pour it out) and one for solids, using the same process as for the inside toilet. You will also need a surface or container to hold toilet paper or wipes, and hand sanitizer if water is at a premium.

BUY AHEAD

Camping supply stores carry a lot of things that work well for preparedness, such as products that hasten the decomposition of human waste. For less than $100 you can buy a camp toilet and pop-up privacy tent, which could be money well spent. Here are some other things to look for.

- Percolator
- Lanterns
- Water filters
- Arctic sleeping bags

- Cast-iron cookware
- Flashlights
- Emergency radios
- Propane stoves
- Water carriers
- First-aid kits

CHAPTER 31

DEAL WITH PERSONAL HYGIENE

Consider ways to keep clean during a power outage.

Five minutes under a stream of steamy water is one of life's little luxuries, and I would hate to do without it. But when a storm is raging, power and water may be in short supply if not nonexistent. That's unfortunate, as cleanliness matters more when you are stressed or doing the hard work of cleaning up after a natural disaster. When our immune system is under

stress, we are more susceptible to illness and infection, so it's important to do the best we can to maintain hygiene.

At the very least, try to keep your hands and your face clean. You want to do all you can to stay healthy, and clean hands are the best defense against illness. Hand sanitizer is better than nothing, but soap and water are best.

TEETH. It shouldn't be too difficult to maintain your oral hygiene. It's a good idea to have a stock of toothpaste and several extra toothbrushes in case of unexpected company. You may also need dental floss and mouthwash.

HAIR. I have four daughters and I know the tragedy of unwashed hair. While the usual hair routine might not be possible, there are things you can do to keep up appearances and morale. You can try dry shampoo. Some people say it works just fine, while others find it only slightly better than nothing. Try it before you need it so that you can gauge whether you want to have a supply on hand. Otherwise, long hair can be braided or pulled up into a ponytail. Rainwater is soft and best for washing hair, as the soap rinses out so thoroughly. If it rains hard enough, you can wash your hair outside. Go light on the shampoo so your hair will rinse quickly.

BODY. Shower bags available for camping have a clamp on the hose so you can get wet, shut off the water while you lather up, and then unclamp for a quick rinse. The water can be heated by hanging the black bags in the sun for several hours. You can use a watering can in much the same way, though a full can is heavy and you might want a partner to do the pouring. If you stand in a bucket, you can save precious water for flushing. As with shampooing, a solid, soaking rain can clean you pretty well, as can a swim if you are sure the water is not contaminated. Don't swim or bathe in water that is used as a drinking source.

If a shower isn't available, you can take a sponge bath with a bowl of warm, slightly soapy water. Even if you can't bathe, just keeping your face and hands clean, and changing socks and underwear, will make you feel better. Liberal use of deodorant will make things more pleasant for everyone. Liberal use of perfume will not.

SANITARY NEEDS. It's easy enough to stock up on sanitary supplies. The problem comes with disposal. You can burn them if trash won't be picked up in a timely matter. There are washable pads and reusable menstrual cups, but they require some getting used to.

Visit your local camping store and see what they have to offer. I found a complete outdoor shower kit with a solar shower and an enclosure. This is overkill for short-term emergencies, but you will be happy to have a way to manage bathing if a crisis goes on for long.

CHAPTER 32

MANAGE YOUR LAUNDRY

Decide on a nonelectric laundry method and try it out. Stock up on extra detergent or learn to make your own.

I can do without a lot of conveniences. I haven't used my dishwasher in years (except to store canning jars) and I would happily replace my microwave with more cabinets, but my washing machine is dear to me. We once lost power when we had two kids in cloth diapers along with a bed wetter. It was a

long and smelly three days. Since then I have taken pains to have a backup laundry system in place, and I'm not one to ever let my laundry get ahead of me.

When water is precious, clean clothes will be a luxury. But as long as water is plentiful, you can wash clothes if you plan ahead. Here are some systems that work well in the absence of electricity.

ABOVE: *An old-fashioned washboard still works just fine to get clothes clean.*

DETERGENT

I stopped buying plastic jugs of detergent years ago. I could not justify the amount of plastic going into the waste stream.

You can make your own detergent with a grated bar of Fels-Naptha soap, a cup of washing soda, and a cup of borax mixed with 5 gallons of hot water in a large bucket. You grate the soap into a pan of hot water and simmer it until it all melts. Add to the other ingredients and stir well. After it sits for about an hour, you will have 5 gallons of laundry gel.

I use about ⅓ cup of detergent in my high-efficiency washer. I find no difference in how it performs compared with commercial detergents. It takes much less room to store the ingredients for a year's worth of homemade laundry detergent than it would to store a dozen jugs of store-bought detergent.

HANDWASHING. When I was a little girl, we were all expected to hand-wash our socks and underwear before we went to bed and hang them on a rack over the bathroom radiator. We did not consider this to be a terrible thing. Old-fashioned washboards (which you can still find at hardware and department stores) are not just for decoration. They really work although using one is hard on your back and hands.

To use one, set the board in a bucket of warm water. Wet a single piece of laundry and place it against the ribs of the washboard. Rub a bar of soap against the laundry until you create a lather. Move the laundry around so all surfaces are agitated. When the water gets soapy you can dispense with this step as too much soap will be hard to rinse out. Remove as much dirty lather as you can before placing the laundry in a bucket of water for rinsing. It may take two rinses to remove all the soap. Wring out and hang your laundry to dry.

WONDERWASH. I love my portable, hand-crank WonderWash. It cost less than $50 and takes up very little space. Mine lives in a bathtub we never use. It consists of a barrel that sits on a base and has an attached handle. Fill it with laundry (it can hold a queen-size sheet), add a tablespoon or two of laundry soap and about 6 quarts of water (hot water works better), screw the lid on, and then turn the handle for two to six minutes, depending on how dirty your clothes are. Wring your clothes, rinse with clean water for another minute, and drain again. You do have to hand-wring the items, which is no fun if you are washing jeans or sheets, but my clothes all came out very clean and smelling good. There is an added benefit with the WonderWash: Kids tend to love doing the spinning. That works just fine for me.

BREATHING WASHER. This device is little more than a fancy toilet plunger. (In fact, you can use a regular toilet plunger instead; just drill several holes in the head so the water will move through.) Put your clothes, soap, and water in a 6-gallon bucket and plunge away.

The Breathing Washer works fine for lighter clothes but less well for larger, heavier items. Again, the clothes need to be wrung by hand, rinsed, and wrung again. Using the smallest amount of detergent you can get away with helps. If you're using powdered detergent, dissolve it in a cup of hot water first. Like the WonderWash, the Breathing Washer works okay in cold water for lightly soiled items.

LEHMAN'S OWN LAUNDRY HAND WASHER. This is a hand-wringer washing machine that off-grid families rely on. It is as efficient as an electric washer and will wash as large a volume of

clothes, but it's very expensive. It isn't practical for your average family.

ABOVE: *left: WonderWash; right: Lehman's Own Laundry Hand Washer*

CODES FOR WATER

Water is classified by color. Black water is the dirtiest; it's the water that contains human waste, and the pathogens in it make it unsafe for anything until filtered and purified. Gray water is produced when doing dishes, washing clothes, or bathing; it isn't safe to drink, but it can be used to flush toilets.

Wringing

This is the hard part. You can wring out wet laundry by hand or invest in a wringer and tub. Lehman's (see Resources) has everything you need to deal with laundry in the absence of electricity. If I had to wring laundry by hand for any length of time, I would drill a series of holes in a 6-gallon bucket. After putting my wet clothing in the bucket, I'd add some weight to press the water out.

Another option that I think has merit is to invest in a 5-gallon salad spinner from a restaurant supply store. I used my small spinner to remove water from a load of baby clothes, albeit one item at a time. It was laborious, but it worked.

Drying

Even under normal circumstances, I do not use my dryer if I have any other choice. I have a very nice metal drying rack that holds two full loads of laundry. I do my wash after supper and then hang it before we go to bed. It's usually dry in the morning, especially in winter when the woodstove is going. In summer, my rack lives on the back porch. Granted, it isn't a home decor tip that will ever be featured in *House Beautiful*, but it works for us.

If you don't already have an outdoor clothesline, put one up. If the weather makes it impractical to dry clothes outside, you can dry your clothes on a rack, on a line strung up in your

bathroom, or even on the backs of chairs. Drying shirts on hangers will leave them nearly wrinkle-free.

CHAPTER 33

THINK ABOUT SECURITY

Protect your family and property. Times of crisis can bring out the worst in people.

SentrySafe
2180

Often, a crisis brings out the very best humankind has to offer. We see acts of amazing generosity and instances of unimaginable heroism. People rise to the occasion. They work together and share limited resources, putting aside differences and uniting for the common good. Unfortunately, the opposite can, and does, happen. A disaster can bring out the worst side of human nature. There are always a few who seek to take advantage of the vulnerable.

Protect Your Property

Looters often target decimated neighborhoods as easy pickings. In any disaster ask local law enforcement to address that concern early. Consider joining your neighbors to form a community watch, especially if many homes are vacant. This is *not* an armed force but rather a group of neighbors who agree to keep an eye out for one another. Have a plan of action for how to respond should you see something suspicious. The plan should not include confrontation; instead, it should advise a quick call to let authorities know that people are skulking about on property they don't have claim to.

Get a safe. A safe is a worthwhile investment for everyone, not just the very wealthy. Thieves are looking for small, easy-to-transport items like jewelry and collectibles. They want to be in and out before attracting attention. A safe is too awkward to carry and hard to crack without special tools and lots of time. A small fireproof safe is not terribly expensive, and for further safety it can be bolted in place. A safe-deposit box is even more

secure and something to consider if you have valuables items to protect. If you wish, you can use it only when a major natural disaster is predicted.

Watch Out for Scams

In-and-out thieves will not likely be your biggest problem. Contracting scams abound after hurricanes, tornadoes, mudslides, wildfires, and any other catastrophic destruction. If your roof is somewhere in the next county, it will be tempting to hire that nice fellow with the truckload of supplies who promises to come back the next day with a full crew if you secure his services with a down payment. Maybe he will, but maybe he will take your money and never return.

Another contracting problem arises when workers offer to do repairs at bargain prices but have no proper credentials, experience, or insurance. The last thing you want is some worker who put his own roof on and now thinks he's an expert. If the roof fails in six months or the paint peels off the next time it rains, to whom do you turn for reparations?

People who feel desperate are prime targets for scammers. Take a deep breath and hold off on hiring anyone or giving out any money until you check references and history with a licensing agency or other reliable source.

Above all, don't tackle repairs yourself unless you know what you're doing. You can be seriously hurt or worse. There may be live electrical wires, broken glass, toxic materials, and any number of other hazards to deal with after a bad storm. Doing your own repairs can sometimes negate warranties or insurance

claims. Instead, take pictures of damage and get professional advice before moving forward.

Before a crisis occurs is a good time to look over your home insurance policy to see exactly what is covered. Many times people have been shocked to find out that flood insurance is an add-on for many policies, especially in flood-prone areas.

Protect Your Family

Most people are good people, but it's still wise to exercise caution around strangers. Know where local shelters are operating so that you can direct people there if necessary rather than allowing strangers access to your home and family. After a disaster, don't let your children wander around without supervision, even if they generally go outside on their own.

You may have many unfamiliar people in the area, and most will have good reasons for being there. The press, relief workers, security officers, military personnel, and contractors are all common after a serious disaster, but that provides cover for people with less altruistic motives. Ask for identification before allowing anyone onto your property, and know that it's okay to deny access if you feel uncomfortable.

It's important to remember that stuff is just stuff. It can be replaced, whereas you can't. So take a breath before making decisions about how to respond to threats and let discretion be the better part of valor.

DO YOU NEED A GUN?

This is an uncomfortable subject for me, but I can't discuss security without discussing firearms. Owning a gun for protection is a personal decision, and one that you are likely to have made already. However, I can't stress enough the importance of firearm safety. If you decide to keep a gun in your home, know how to use it, how to properly care for it, and how to secure it.

Many people feel better with less lethal methods of self-protection like pepper spray or Mace. I am a big proponent of whistles. Thieves are deterred by anything that calls attention to them, and a loud whistle will do that. A big dog or even a small yappy, scrappy dog is also a deal breaker for many thieves.

CHAPTER 34

CREATE A SAFE ROOM

Seek out a spot in your home that meets the criteria for safety.

Shelter is your most important consideration in any crisis. A safe room is space in your home that can be outfitted to keep you safe in different crises. I had not given much thought to safe rooms, as I live in a geographically and climatically stable area. We are, I reasoned, too high for floods, too far inland for hurricanes, and too far north for tornadoes. But in the past few years we have had each of those events happen within a few miles of our home. During Hurricane Irene we were toting important papers to the second story as we watched the water rise. A February tornado shut down traffic on our main highway out of town just this year. If you had told me to expect a tornado in Massachusetts in February, I would have said you were not thinking clearly. I have since designed a properly stocked safe room.

The location of a safe room is determined by your risks. If you live in hurricane territory, you want a spot that sits above the high-water mark and without exterior doors or windows. If tornadoes are likely in your area, you are safer underground. Structural integrity matters in all disasters but is especially critical in an earthquake. It may be necessary to relocate to a municipal shelter to have adequate protection. This is particularly true if you live in a vulnerable structure like a mobile home, a recreational vehicle, or a high-rise apartment building.

An ideal location for a safe room would be a bedroom with an adjoining bath. This would give you access to water and sanitary facilities as long as those services worked. It would be necessary to cover the windows with plywood if high winds are expected.

Any space you choose will need to be large enough to accommodate your entire family and your pets. When you enter,

be sure to take your grab-and-go binder and text family to let them know your plans. After several hours the air in the room is likely to become quite warm and stuffy, so if possible, open the door for a bit to allow some fresh air in.

Stocking a Safe Room

A safe room needs to contain some supplies — water, of course, and nonperishable food that can be eaten out of hand like trail mix, energy bars, dried fruit, and nuts. Include a trash bag. You will want an emergency lantern (battery operated), flashlights, and a loud whistle in case you need to alert rescue teams to your

presence. Include a few pair of work gloves, and be sure you are wearing sturdy shoes when you enter. It isn't necessary to purchase extra supplies. Just be sure to store what you need in a place that will double as your safe room or plan to move supplies there as soon as it seems necessary. It's important to rotate your supplies, including the batteries in lanterns and flashlights.

For short-term emergencies like tornadoes, the supplies listed in the preceding paragraph will suffice. For hurricanes, you should include space to lie down and something to pass the time, like a book. Be sure to bring in an emergency radio so you can keep track of what is happening. Remember your fully charged cell phone.

If you live in a flood-prone area, create a space on the highest level of your home. Unlike a tornado safe room, which will be needed for only a short period, a flood safe room may need to provide shelter for several days.

In addition to the supplies recommended here, you will need to address sanitation. You should also include a signaling device and an emergency cell phone charger. Some hand tools would make it possible to break through the roof if necessary. Think about including life jackets for each family member.

FEMA publishes a manual on building tornado-safe rooms. It contains detailed instructions on construction. The 71-page manual, "Taking Shelter from the Storm: Building a Safe Room Inside Your Home," is available on the FEMA website.

SEEN ON SCREEN

Sometimes it can be a challenge to get your family on board with emergency planning. Teenagers can find the whole thing embarrassing. One way to engage them in the process is to watch some disaster flicks. While some are rather silly, a few are quite good and can jump-start a *what-if* conversation. Here are some of my favorites.

- *Armageddon*. One of the best of the over-the-top disaster films. We never miss it in reruns.
- *Contagion.* I'm a sucker for a good pandemic movie. It is surprisingly scary and plausible.

- *Deep Impact.* Hands down my favorite. You will want to vote for this president in the next election.
- *Hours.* Be prepared for edge-of-your-seat drama involving a father's struggles to keep his infant daughter alive in the face of a hurricane after they are left behind when the hospital is evacuated.
- *The Impossible.* This is a touching movie about a family torn apart by a tsunami. The special effects are amazing.
- *Jericho.* This is a TV show, not a movie, but the first season makes for some good preparedness television.
- *Seeking a Friend for the End of the World.* This one has a sweet romance as well as some drama.
- *Twister.* All right, the flying cow is a little silly, but the movie is still suspenseful.
- *World War Z.* I will admit to preferring the book. I'm not usually a zombie fan, but this is really scary, as the zombies are fast.

CHAPTER 35

KEEP WARM

Be prepared to handle a power outage even without a woodstove.

If you're very lucky, when the power goes out during cold weather you simply stoke up the woodstove and remain nice and toasty. If you are not so lucky, the power goes out and you feel your house get steadily colder. It's a terrible feeling, especially if

you have children or elders who need to be kept warm. Here are some ways to minimize heat loss and maximize warmth.

Stop Heat Loss from the House

ACT QUICKLY. Your first step is to keep as much valuable heat inside as you can. Immediately stop opening exterior doors. Every time you do, warm air rushes out and cold air tumbles in.

BLOCK AIR FROM LEAKING BETWEEN ROOMS. Close all interior doors, and at the base of each place draft blockers such as rolled-up towels, folded newspapers, or throw pillows. If you have extra blankets, hang them in front of doors or lay them on the floor.

INSULATE WINDOWS. Even the best windows leak. Add a layer of insulation directly onto the glass. Cut a piece of bubble wrap and stick it right on your windows, covering the frames if possible. Wiping the windows with a damp sponge will help the bubble wrap cling. In the absence of bubble wrap, you can stretch plastic wrap or hang heavy blankets over the windows.

Heat the Smallest Space

Begin with your body and work outward from there. Keep pulse points covered to stay warm. Dress in layers. Loose layers trap more air and will keep you warmer than tight clothing. Long

underwear topped by a flannel or chamois shirt and a vest keep your core warm but still allow for ease of movement.

Speaking of long underwear, cotton isn't the best choice. If it gets wet from sweat, you wind up chilled. Look for material that wicks moisture and stays dry. Thermal underwear designed for skiing and other cold-weather activity is lightweight and comfortable. Zip small children into fleece footed pajamas over their long underwear and socks; add a vest to keep their core warm.

Your extremities are at risk from cold temperatures, so wear gloves, wool socks, and a hat, even while sleeping. Chemical handwarmers are inexpensive and can be helpful. Sporting goods stores offer the highest quality cold-weather gear — shop the end-of-season sales for bargains.

If you can't keep a single room warm, check out your basement. Areas belowground tend to maintain a steady temperature. While a 45˚F (7˚C) basement might feel cold when you enter it from a 70˚F (21˚C) house, it will feel balmy if the temperature in your house has fallen to 20˚F (–7˚C).

Sleep Warm

Flannel sheets, wool blankets, and down comforters will get you through most cold nights, but if you live in a place with extremely low nighttime temperatures, you may want to invest in good four-season sleeping bags for everyone in the family. Mummy bags are the best design. High-quality bags can be expensive but can save a life in subzero temperatures. Look for bargains off-season.

KEEP YOUR SLEEPING BAG OFF THE FLOOR. Putting it on top of sofa cushions or even layered newspaper will add some insulation.

BUILD A SLEEPING AREA. Make a smaller space to sleep in to take advantage of the fact that your body gives off a lot of heat. You can set up a pup tent, create a blanket tent, or even use a cardboard box.

DOUBLE UP. Two bodies generate more heat than one. Zip two sleeping bags together. Let kids sleep in a pile. Add a dog or two, and you will have a living furnace.

ABOVE: *kerosene heater*

USING NONELECTRIC HEATERS INDOORS

Kerosene and propane heaters are as safe as the person using one is safety conscious. A heater is something I would buy new in order to take advantage of the latest in safety features.

Using a kerosene heater involves an open flame and very hot surfaces, so safety around children and pets is paramount. Proper ventilation is also critical, so don't set one up in an enclosed space. Crack open a window or open the flue to your fireplace to get some air circulating. Here are some other tips.

- Flames produce carbon monoxide, so it's important to have a working CO detector.
- Set up the heater at least three feet from combustible surfaces.
- If it does not come with a drip tray, add one.
- Don't leave pots on the surface unattended.
- Should the flame go out, do not attempt to relight it for 20 minutes.
- Never mix kerosene with any other fuel as this can create an explosion.

There are a number of propane heaters on the market. The safety procedures are much the same as for kerosene heaters. Be sure the one you purchase is designed for indoor use and set it up according to manufacturer's recommendations.

Propane and kerosene should be stored securely out of your home. Learn the symptoms of carbon monoxide poisoning before using any alternative fuel.

Eat for Heat

It takes a lot of calories to maintain your body temperature. During a power outage in cold weather, eat calorie-dense foods, especially those that are high in fat.

Stay hydrated. Cold is nearly as dehydrating as heat, so you need plenty of liquid. Hot drinks will warm you up quickly, but cold liquids will cool you down, so avoid them. (You shouldn't be opening the refrigerator in a power outage anyway!) While stimulants (coffee, tea, hot chocolate) are fine, alcohol is not. It's a central nervous system depressant. An alcoholic beverage may be warming going down, but it dilates blood vessels near your skin; you feel warmer for a few minutes, but you are losing heat.

Well-nourished adults who can stay dry and out of the wind can withstand cold temperatures if properly dressed, but small children and seniors can develop hypothermia very quickly. It is imperative to keep a close eye on vulnerable people and get help if you notice the signs of hypothermia.

What about a Generator?

A generator will allow you to use your electricity-dependent furnace and keep warm during the most severe storm, but generators aren't without their drawbacks, and you need to know what you're buying.

Portable generators are available at home improvement and big-box stores. They run on gasoline, which will be in short supply if the power is out, so you do have to plan ahead. They are loud and must be set up outside. They won't power your whole house, but you will have enough power to keep your furnace running. The amount of fuel needed varies, depending on how large the unit is and what the usage load is, so do your homework before installing a generator and have a plan for storing sufficient fuel for at least a couple of days.

A permanent standby generator can be installed on a slab near your home. This must be done by a professional, as such generators are connected directly to your home's electrical panel. The fuel is in an external tank connected to the generator by a hose rather than in the generator itself. A properly sized unit will power your whole house as long as it has fuel, but the convenience comes with a price tag upward of $20,000. A unit like this requires a lot of service and upkeep. It will need to be professionally serviced after just a few days of continual use, and the oil and filter need to be changed after only 10 days of use. Schedule an appointment with an installer to determine if this is a good use of funds, but be aware that his or her job is to sell a product. Ask people who have a permanent generator if they are happy with their choice before committing to a major investment that will be used so rarely.

SIGNS OF HYPOTHERMIA

- Drowsiness, with failure to rouse
- Weakness, lack of usual coordination
- Pale skin that is cold to the touch
- Confusion
- Uncontrollable shivers, which in late stages may stop
- Slow breathing
- Slow pulse

CHAPTER 36

KEEP COOL

Develop a plan for dealing with a heat wave when you don't have power.

While the dramatic footage of hurricanes, earthquakes, and tornadoes can dominate news coverage, the reality is that more people die in heat waves than any other weather-related disaster. In 2003, an estimated 70,000 people died in Europe during a devastating heat wave. Most of the fatalities were elders living in upper-level apartments without air-conditioning. During the 2016 heat wave in India, temperatures reached 120˚F (49˚C). As the planet warms, this will be an escalating problem.

One of the problems that arises during heat waves is that when aging electrical systems are overwhelmed, the wires sag and break, leaving people who rely on electricity-fueled air conditioners without any way to cool down. Even if the grid is functioning, brownouts are common, and often people are urged to reduce energy consumption, especially during peak hours.

Here are some suggestions for keeping cool in the absence of electricity.

STAY IN THE COOLEST PART OF THE HOUSE. Often this is the basement. Heat rises, so the uppermost rooms may be unbearable, while the basement remains relatively comfortable. Have people sleep downstairs rather than upstairs.

USE CURTAINS TO KEEP YOUR HOUSE COOL. We got rid of our air conditioner several years ago. In summer we close the windows and draw the drapes as soon as we get up. At night we open the drapes and the windows. This keeps the cold air inside and the hot air outside during the heat of the day and allows air circulation at night.

USE WATER TO COOL OFF. As water evaporates from your body, it will provide relief. Soak your feet in a pan of cool water. Drape a water-soaked towel around your shoulders and wear a

saturated bandanna on your head. Fill a spray bottle with cold water and spritz your face.

WEAR APPROPRIATE CLOTHING. Flowing, light-colored fabrics are cooler than heavy, dark ones. Avoid clothes that bind, especially at pulse points. If you are in the sun, don't be overexposed. Cover up with light fabric to protect yourself from the sun. A floppy hat is a must when outdoors.

REDUCE UNNECESSARY HEAT. Incandescent bulbs, appliances, computers, and televisions all add heat to a room. Avoid unnecessary cooking. If you must use the stove, do so early in the morning or late at night.

DRINK MORE WATER THAN USUAL. Plain water or water with a bit of fruit juice is the preferred beverage. If you are sweating profusely, you can drink water laced with electrolyte replacement, such as sports drinks. Avoid caffeine and alcohol; both can act as diuretics and can lead to dehydration.

AVOID HEAVY MEALS. You will probably crave fruit and salads, as heavy meals are difficult to digest in the heat. They increase your metabolic rate, which warms the body.

REDUCE ACTIVITY. Spend time out of the sun and in quiet activities. Public cooling spaces may be open in schools, libraries, and hospitals. Often stores, museums, and movie theaters are open and have air-conditioning.

DON'T FORGET YOUR PETS. Cats, dogs, and rabbits are susceptible to heat stress. Be sure they have adequate shelter

from the sun and plenty of fresh water available. Bring them inside if possible and never, ever leave them in a closed car.

HEAT-RELATED ILLNESS

Be sure to check on elders during a heat emergency and encourage them to use cooling centers. If you fear someone is suffering from heat-related illness, seek medical help immediately.

HEAT EXHAUSTION is mild heat-related illness that can cause lethargy, headache, and muscle cramps and nausea. The victim will sweat profusely. Get the person (or animal) out of the sun. Remove constricting clothing. Wet compresses, ice packs, and small sips of water or electrolyte replacement drinks are recommended. Pay special attention to applying cold compresses to armpits and groin. If not treated, heat exhaustion can lead to heat stroke.

HEAT STROKE is a medical emergency. The following are common symptoms:

- High body temperature
- No sweating
- Flushed, dry skin
- Rapid pulse
- Difficulty breathing
- Anxiety and sloppy thinking
- Disorientation
- Seizures
- Fainting

Call emergency services for assistance. While waiting for help, try to cool the victim with a stream of cool water and a fan. Do not give anything to the victim by mouth, as choking is possible.

CHAPTER 37

MAKE AN EVACUATION PLAN

Know what to do if you're forced to leave your home.

As a damaged spillway put California's Oroville Dam region on high alert, 180,000 people spent Valentine's Day of 2017 searching for shelter. The roads were in complete gridlock, and people panicked, rushing out of their homes without necessities like medication or some extra cash.

We all hope we never have to evacuate. One reason we prepare is that we want to stay home during a disaster. But even if you live in a geographically safe place, not prone to floods or wildfires, earthquakes or volcanoes, things do happen. Something as common as a house fire can make it necessary to leave without any time to pack a bag. How many of us are really prepared for that?

Evacuation Bags

There are a lot of names for them — get out of Dodge (GOOD) bags, grab-and-go (GAG) bags, and bug-out bags (BOBs) — but they all refer to the same thing: a backpack filled with the things each family member would need to get through a few days away from home. With your preparedness binder and your evacuation bag ready, you could leave home feeling less helpless and more in control.

First, you will need a backpack. Backpacks are easier to carry than satchels or suitcases, and you will be grateful to have your

hands free to hold on to children or pets. You want a backpack that is sturdy and comfortable. Try it on before committing, and be sure it sits comfortably on your back. Padded straps are a plus, especially if you have to walk far while wearing one. Even a young child can manage a backpack if it's sized to fit. You probably don't need a full-size hiking bag unless you can picture having to hike a long distance. Slip a card in each bag with the owner's name and contact information clearly printed.

One family member should have a radio. As you run out the door, each person should grab a pair of sturdy, broken-in shoes that will be comfortable for walking in.

EVACUATION LIST

Here's a quick visual checklist of items that you'll be glad to have if you need to grab your bags and get out of your house in a hurry.

- A change of clothes, including socks and underwear
- A roll of quarters and $20–$50 in cash
- Snacks like dried fruit, seeds, nuts, energy bars, granola bars, chocolate
- Essential toiletries: a comb or brush, toothbrush and toothpaste, a cake of soap wrapped in a washcloth, deodorant, sanitary supplies, and a roll of toilet paper
- Bottled water or a water bottle with a built-in filter
- A three-day supply of any medication on which you rely (rotated often to avoid expiration)
- A flashlight with fresh batteries
- Seasonal items: lip balm, sunscreen, bug repellent, a rain poncho, an emergency blanket
- A whistle
- A cell phone and a portable charger
- Something to pass the time, like a book or handheld game and a notepad and pen
- Water carriers

Make a Plan

Long before you ever need to evacuate, you will need a plan for where you might go. Perhaps you can arrange with distant friends or family members to provide a home away from home during an emergency. It's wise to have two choices in case one is unavailable. Having the numbers for hotels or motels within an easy drive could be helpful if you have to call en route. Make sure to ask about pet policy if that's a concern for you.

Hang a checklist near your door so you don't forget critical steps for securing your home. Here are some other things to remember as you prepare to evacuate.

NECESSITIES. While you should have a three-day supply of medication in your evacuation bag, you should also take whole bottles of prescription medications with you if there is time to get them. If you sometimes wear eyeglasses, get them as well. If you use contact lenses, add a spare pair and lens solution to your bag. Your child's special blanket or bear belongs in the necessity category. Make sure you grab your wallet and cell phone.

CHECKLIST. Design a checklist of actions to secure your house. This would include shutting off gas or electric service, unplugging computers and televisions, and shutting and locking doors and windows. Hang the list near a door or somewhere else you can find it easily should you have time to go through the list before you have to leave.

CAR. Your car should always be ready for any emergency. Keep your gas tank as full as practical, and park facing out of your driveway. Keeping your car clear of clutter and debris will make things more pleasant, especially if you find yourself stranded for any length of time. Have a paper map in the glove box with several evacuation routes highlighted. Main roads will be more direct, but the traffic will be heavier. Check out back roads so that they will be familiar if you have to travel on them.

Emergency Shelter Living

If you find yourself with no option but an evacuation center or shelter, some family rules will make your stay a bit easier.

- Don’t let children wander around unattended. Keep them in your line of sight.
- Team up with another family or two to form a small shelter community.
- Be considerate of others; keep noise to a minimum.
- Offer to help, especially if you have a useful skill. A crisis can bring out the best in people, or it can bring out the worst. You want to be one of the good guys.

CHAPTER 38

SURVIVAL HACKS

Look around. You may be more prepared than you realize.

You have already started to prepare. You have this book, so your head is in the right place. You know that things fall apart, and you recognize your responsibility in protecting your family. I would guess that if you look around, you already have some of

what you need to get started. The trick is to look at what you have through the fresh eyes of emergency preparedness.

There are some things that serve multiple purposes or are so useful that you cannot have too much of it on hand. Look around. What do you have that you can use in a crisis?

ABOVE: *Your home is probably already full of items that will come in handy in an emergency.*

ALUMINUM FOIL. Get the heavy-duty foil. It has a lot of uses. It can act as a light reflector when you start seeds. It can be molded to form a watertight pouch for things like matches. Shape into a pan for cooking in embers, or use it to make a solar oven.

BAKING SODA. You can use it to brush your teeth and make cleaning supplies. It's a natural deodorizer and absorbs moisture. You can buy it in 12-pound bags at big-box stores.

BUCKETS. What can I say? The usefulness goes far beyond food storage. You can use buckets to make a laundry system, a composting toilet, a mousetrap, or a self-watering container for growing vegetables. You can get free food-grade buckets from bakeries and supermarkets.

LIP BALM. I keep tubes all over. I use it on my lips, but it also protects my whole face from bitter winds. You can also use lip balm to lubricate a screw that won't tighten or even to make an emergency candle (using half of a cotton swab as a wick).

COFFEE FILTERS. You can filter coffee, of course, but you can also make your own tea and coffee bags. You can also use coffee filters to filter water before purifying it, cover food (in place of plastic wrap), and wipe up spills (in place of paper towels).

DUCT TAPE. This is the all-purpose fix-it material. Use it to hold shoes and boots together, patch holes in a bucket, make a trash-

bag poncho, or prevent blisters when breaking in hiking boots. There are whole books devoted to the uses of duct tape.

SAFETY PINS. With safety pins, you can hold a diaper together, repair clothing, make a zipper pull, or make a fishhook. Link several together to make a lightweight chain. Buy a bunch of different sizes for all kinds of tasks.

SOAP. It will not only get you clean but can also keep pests out of your stored clothing or lubricate a wooden drawer. Store a lot so that you can hand it out to others who haven't thought ahead.

SOCKS. Clean socks are a treat, but their usefulness goes beyond your feet. You can cut off the feet to make wrist protectors. Fill them with gravel, sand, and charcoal to filter water. Fill them with rice or sand to stop drafts. Get a lot in different weights for all seasons.

TOILET PAPER. As well as keeping your tushy clean, toilet paper can be soaked in alcohol and stuffed into a can to make a long-burning alcohol stove. How much do you need? Probably more than you have.

TRASH BAGS. Plastic bags in all sizes are critical, but heavy-duty contractor bags are especially useful. You can use one to make a poncho, a ground cover, or a short-term tent. Use bags to smother weeds before planting or to protect valuables from moisture.

VINEGAR. Clean with it, cook with it, preserve food with it, or use it to combat infections, especially ingrown toenails. It lasts

forever, and the organic kind with the mother in it can be used to make more.

MATCHES. Even if you never use your matches for anything but making fire, you will be glad to have lots of the stick matches. Have extras on hand to give to neighbors and friends who don't prepare.

TOWELS. In *The Hitchhiker's Guide to the Galaxy*, a white towel has so many uses that every hitchhiker has one. It's true. It's a diaper or a sling, a draft blocker, or a head cover. I never throw out a towel of any color.

STEEL WOOL. It cleans, it plugs up holes, it even burns. (You can start a fire by rubbing a 9-volt battery against a wad of it.) I keep several big boxes on hand.

ON THE BOOKSHELF

A fun way to see your things in new ways is to check out life hacks on Pinterest or YouTube. There are books devoted to preparedness projects. Here are some of my favorites.

- *5-Gallon Bucket Book: DIY Projects, Hacks and Upcycles*, by Chris Peterson
- *The Backyard Homestead Book of Building Projects: 76 Useful Things You Can Build*, by Spike Carlsen
- *DIY Projects for the Self-Sufficient Homeowner: 25 Ways to Build A Self-Reliant Lifestyle*, by Betsy Matheson

- *HomeMade: 101 Easy-to-Make Things for Your Garden, Home, or Farm*, by Ken Braren and Roger Griffith
- *Life Hacks: Helpful Hints to Make Life Easier*, by Dan Marshall
- *Survival Hacks: Over 200 Ways to Use Everyday Items for Wilderness Survival*, by Creek Stewart
- *Vinegar, Duct Tape, Milk Jugs & More: 1,001 Ingenious Ways to Use Common Household Items to Repair, Restore, Revive, or Replace Just About Everything in Your Life*, by Earl Proulx and the editors of *Yankee Magazine*

CHAPTER 39

THE WELL-PREPARED BOOKCASE

Knowledge is power! Create a home library of preparedness references in a place you can easily access materials when you need them.

A classic in post-apocalyptic fiction, *Lucifer's Hammer* has an amazing scene that speaks to the book lover in me. An asteroid has hit Earth, causing worldwide destruction. As people scramble to survive, an astrophysicist spends his last day with heat and electricity double-bagging books and depositing them in an empty septic tank to save them from the coming tsunamis. The books he rescues detail the intricacies of math and science and contain much of the world's great literature. His last act is to bag volume 1 of *How Things Work* to leave behind as he takes volume 2 with him to buy his way into the Stronghold. It's a measure of the value of education and information.

We have a vast amount of information and literature and entertainment available to us at the push of a button. The classics are free on an e-reader. YouTube videos, available with a quick search, demonstrate how to do almost anything. The knowledge of the universe sails to us across the invisible information superhighway. And then, in an instant, it can disappear.

The wisdom of stocking up on food and water and supplies for growing a garden is rather easy to articulate, but what is possibly even more important is stocking up on information. My own bookshelf has been purged recently, but I still have an extensive collection of books and periodicals, as well as copies of articles gleaned from online sources. If, like me, you get carried away when it comes to buying books, it's best to have a plan.

Build a Library

Begin with a list of topics you want to explore. I am interested in crisis preparedness, herbal medicine, wine and spirits making (I plan on a post-apocalyptic career as a bootlegger), small animal husbandry, beekeeping, Depression-era cooking, gardening, seed saving, and soapmaking. Other topics might include worm farming, wild food identification, cheesemaking, food preservation, and mushroom identification.

An Internet search by topic will lead to a list of books for each topic. Online reviews and testimonials can be helpful in selecting books and potentially save you a lot of money. Use your public library; if it doesn't have a title you're looking for, the librarian can order it for you. This is a good way to review a book you're thinking of buying before committing to spending the money.

As an author, it's hard for me to recommend anything but paying a writer for his or her work, so I encourage you to shop at your local bookstore as much as possible. I do understand the financial constraints of most families, so I am including some strategies for filling your bookshelves on a budget.

Thrift stores, used-book stores, and yard sales are treasure troves for book lovers. Go when you have some time, as the books are often not shelved by category and you'll have to search for likely titles. Often overlooked are the used-book sites on Amazon. Even with shipping, it's possible to get a deal. If you are on social media, send out a request. I've gotten several hard-to-find books this way.

It may seem like overkill, but I add bookplates with my name and number to my books so that anyone who borrows one will remember to whom it belongs. I have gotten into the habit of keeping an informal card catalog, and I write down the

recipient's name when I lend a book. Did I mention that I love my books? Whether you have a full library or nothing more than a stack on the floor next to your coziest chair, having a book stash will increase your resiliency.

MAKE A MAGAZINE RACK

A simple project is to make a holder for a magazine collection. All you need is a large cereal box, a pair of scissors, and some self-adhesive paper. Cut the top off the box, then cut down at an angle from about 2 inches across down, leaving the short side about 6 inches high. Cover with the self-adhesive paper. One box will hold a year's worth of a monthly magazine.

Pick Out Some Periodicals

In addition to books, periodicals offer great topical information in digestible chunks, written by people doing the work. I am a fan of *Mother Earth News*, *Grit*, and *Hobby Farm*, as well as several others devoted to a specific avocation. Subscriptions to this many magazines will run into some serious money. Organizing a magazine swap with friends and neighbors is a wonderful way to connect with your community and save some cash.

Internet Sources

The Internet is loaded with information. Some is great and some not very good. When it comes to health and safety, don't believe everything you read. When you do find an article you might want to reference someday, print off a copy and slip it in your preparedness binder.

MUSHROOMS
HERBAL RECIPES
making aromatherapy creams & lotions
Foraging New England
CULPEPER'S Color Herbal
HOMEGROWN HERBS
THE PRACTICAL PREPPER
NASH 52 PREPPER PROJECTS
THE BEGINNER'S GUIDE TO HUNTING DEER FOR FOOD
METTLER BASIC BUTCHERING OF LIVESTOCK & GAME
MASONRY FIREPLACE AND CHIMNEY HANDBOOK
BUILD YOUR OWN EARTH OVEN DENZER
BACKYARD sugarin'
MAPLE SUGAR
52 WEEKEND GARDEN PROJECTS
THE BACKYARD LUMBERJACK
The Home Water Supply
SOLAR GREENHOUSE
5-GALLON BUCKET BOOK
PRACTICAL PROJECTS for SELF-SUFFICIENCY
HomeMade
DIY PROJECTS for the Self-Sufficient Homeowner
The Encyclopedia of
COUNTRY LIVING
10TH EDITION
BARNYARD IN YOUR BACKYARD Damerow
STOREY'S ILLUSTRATED GUIDE TO Poultry Breeds
Make Your Place
the life-changing magic of tidying up
Keeping Life Simple
Living Without Electricity
Organized Simplicity
ECOTHRIFTY
Vinegar, Duct Tape, Milk Jugs & More
Is There Life After Housework?
Don Aslett
The COMPLETE Tightwad Gazette
Homemade
The HOMEBREWER'S GARDEN
THE COMPLETE JOY OF HOMEBREWING
CHARLIE PAPAZIAN
The Alaskan Bootlegger's Bible
FRUITS AND BERRIES FOR THE HOME GARDEN
Making WILD WINES & MEADS
don't throw it, GROW IT!
TOENSMEIER PARADISE LOT
Ellen Sandbeck Eat More DIRT
GREENHOUSE GARDENER'S COMPANION
Growing Food & Flowers in Your Greenhouse or Sunspace
LOGSDON Small-Scale Grain Raising
VERTICAL VEGETABLES & FRUIT
HOMEGROWN PANTRY
How to Grow Winter Vegetables
gardening when it counts
The Polytunnel Handbook
THE RESILIENT GARDENER
GROWING CHINESE VEGETABLES
Markham MiniFARMING Self-Sufficiency on ¼ Acre
Seed to Seed
Suzanne Ashworth
THE COMPLETE COMPOST GARDENING GUIDE

ON THE BOOKSHELF

You may notice a lot of crossover between books on homesteading and books on preparedness. People interested in one are often led to the other. What follows is a list of my top book picks for a more resilient life. For a complete list of all On the Bookshelf lists, see Recommended Reading.

- *Back to Basics: A Complete Guide to Traditional Skills*, 4th ed., ed. Abigail R. Gehring
- *The Encyclopedia of Country Living: The Original Manual for Living Off the Land & Doing It Yourself*, 40th anniversary ed., by Carla Emery
- *The Forgotten Skills of Self-Sufficiency Used by the Mormon Pioneers*, by Caleb Warnock
- Foxfire Books, 12 volumes
- *The Homesteading Handbook*, 4th ed., ed. Abigail R. Gehring
- *The New Self-Sufficient Gardener*, by John Seymour
- *Prepper's Long-Term Survival Guide: Food, Shelter, Security, Off-the-Grid Power and More Life-Saving Strategies for Self-Sufficient Living*, by Jim Cobb
- Storey's Basic Country Skills: A Practical Guide to Self-Reliance, by John and Martha Storey
- *When Technology Fails: A Manual for Self-Reliance, Sustainability and Surviving the Long Emergency*, by

Matthew Stein

CHAPTER 40

READY, SET, PRACTICE!

Run through a practice drill on paper to see how your family might cope in a crisis.

You're almost there. You have worked to pick up new skills and lots of supplies. Your home is organized and functioning well. Some of you may well have put your prepared lifestyle to the test already, as storms and natural disasters continue to rock the world. Now it's time to take a mental test.

Pretend that you have just learned that a serious storm threatens and you are right in the path. You have one week to prepare. The reports are suggesting that your area could lose

power for several days and perhaps weeks. What will you do? Do you feel ready? How will you prepare? Let's work on a punch list of tasks and goals so that nothing is forgotten. Ready, set, go!

CHECKLIST

- Check with vulnerable neighbors to ensure they have a safety plan. Contact authorities if someone is at risk.
- Clean out your refrigerator. Use up perishable food so that you won't have to deal with spoiled food later.
- Organize your freezer. Use up the foods that will thaw first, like fruits and ice cream. Fill crevices with bags of water.
- Refill all medication prescriptions.
- Fill all of your vehicles' gas tanks and keep them topped off.
- Do a yard check. Remove any potential hazards like dead tree limbs or outdoor furniture that could be blown around.
- Check your cooking plan. Be sure your camp stove has adequate fuel and is working well.
- Make a meal plan and be sure you have not forgotten something important.

- Check flashlights and batteries.
- Check your hurricane lamps. Trim the wicks and wash the globes. If necessary, replenish your supply of lamp oil.
- If you are heating or cooking with wood, check that you have enough wood, kindling, and matches.
- Change the sheets and do laundry.
- Give your home a good cleaning.
- Set up your laundry station if you think you will need one.
- Set up your composting toilet if necessary.
- Fill your WaterBOB. If you don't have one, fill jugs and jars.
- Top off food and water as you can.
- Make sure pets' needs are met.
- Plan for some fun.
- Charge all devices that need charging.

Review the Results

How did this exercise feel? Was it frightening or satisfying? Did you find you had few pressing chores or were there places you knew would send you scrambling? That's the point of the practice.

This is a good exercise to do with friends and family. It can open important avenues of conversation about risks and preparations.

AFTERWORD:

What If It Lasts Longer?

In general, I have been talking about short-term dislocations such as storms and power outages that impact us for a few days or weeks at most, but we all know the reality. Hurricanes Katrina, Sandy, and Maria left people homeless and without power for months; some people and places never recovered. The Great Recession may have ended for many, but tens of thousands are still dealing with job losses and the reality of disappearing pensions. Each year, we watch the influenza map and wonder if this is the year that a new strain emerges and

decimates the global population. You know it, and I know it. Things happen.

What if a given disaster lasts longer? What if you need to stay inside for weeks on end to avoid a virus? What if a major earthquake disrupts your food supply lines? Suppose that power is out for months rather than weeks. Could you manage? For how long?

We can't prepare for everything, but we can do our best to increase our resilience. If you look back at each section in this book, you will find that the foundation for doing just that is right there.

FOOD. Once you are prepared for one month, it is a simple matter to keep going. You will likely find that you are cultivating friendships that make it easier as you go along. A friend I met while arranging for milk delivery from a local farm has hooked me up with a new food cooperative where I can order 10 pounds of cheddar cheese and 50 pounds of flour at bargain-basement prices. We raise a few pigs each year and swapped some of our pork for chickens from another family. We wanted hens but didn't have a chicken coop. My neighbor had more space than he needed. We raise our chickens cooperatively. We pay for the chickens' food, our neighbor does the work, and both families enjoy free-range eggs.

I began by canning applesauce many years ago. I now can throughout the year, and shelves in the basement hold the bounty. We added fruit trees and berry bushes instead of flowers, and beehives that are tucked in a corner keep us and many friends and family members in honey all year long. Each fall we join friends to harvest wild apples and then spend many

pleasant afternoons producing cider with the press we bought together. My food is a community affair.

ENERGY. We got solar panels this year. On a smaller scale, we invest in energy-saving supplies every chance we get. I no longer shop for the least expensive or the most convenient appliances; instead, I look for models that use the least amount of power. Rather than getting a new washing machine, I bought a hand-crank WonderWash and wash smaller loads. Rather than replacing my clothes dryer, I bought a sturdy clothes rack. My dishwasher stopped working, and it now holds canning jars. I no longer have a bread machine, an electric can opener, or a food processor. I found hand-crank versions that work just fine. I have a carpet sweeper and a broom and seldom take out my vacuum. I can manage most tasks quite well and don't find any to be too arduous.

HEAT AND COOLING. We have a used woodstove in the basement. It keeps the lower story of the house surprisingly warm, and I can cook on the top of it if I have to. We bought a log splitter for our son, who cuts firewood for both families. We got rid of our air conditioners a few years ago and only miss them a few times a year. When it's really hot, we all sleep downstairs and take a cool shower before bed.

WATER. This is a tough one for most of us, as so many people rely on municipal water systems and very little surface water is potable. We are exploring the possibility of having a well dug, and we did invest in an excellent water filter, just in case.

COMMUNITY. By now, you will have established connections that will provide support during a long-term disruption. You have a list of people to call if you need assistance, and you know who might need something in turn.

If a crisis comes that lasts a month or even longer, continuing the habits you've learned from checking off these tasks will leave you with some security that you can ride out a storm, whether financial, geopolitical, or climatic. Will things be perfect? Probably not, but they will certainly be easier than if you did nothing to prepare.

Resources

I'm sure you've noticed there is a lot of information to keep track of. When time is short, you might prefer to spend it doing things other than combing the Internet for sources and resources. You can save a lot of energy if you create your own customized guide. It should include book and magazine titles you want to add to your collection, the best places to mail-order bulk food, websites that have up-to-date preparedness information, and any other contact information you would rather not search for. I'll start you off with my own guide, but yours should reflect your unique situation.

Bulk Food Supplies

You can get a membership to one of the big-box grocery stores like Costco, Sam's Club or BJ's, but their options are limited. Online catalogs like the ones listed here often have a much larger selection.

Augason Farms

www.augasonfarms.com

Bulkfoods

www.bulkfoods.com

Emergency Essentials

www.beprepared.com

Grandma's Country Foods

www.gcfcorp.com

Honeyville

www.honeyville.com

Long Life Food Depot

www.longlifefood.com

Mountain House

www.mountainhouse.com

Rainy Day Foods

www.rainydayfoods.com

Equipment and Clothing

I'm always on the hunt for non-electric options for everyday tasks. Here are some of my favorite sources.

Cabela's

www.cabelas.com

Carhartt

www.carhartt.com

Country Living Productions, Inc.

www.countrylivinggrainmills.com

Cumberland General Store

www.cumberlandgeneral.com

Duluth Trading Company

www.duluthtrading.com

L.L. Bean

www.llbean.com

Lehman Hardware and Appliances, Inc.

www.lehmans.com

Real Goods

www.realgoods.com

Food Storage and Preservation

A lot of equipment and supplies can't be bought at your local hardware store. Here are some other places to try.

Lehman Hardware and Appliances, Inc.

www.sorbentsystems.com

Emergency Essentials

www.beprepared.com

Excalibur

www.excaliburdehydrator.com

National Center for Home Food Preservation

https://nchfp.uga.edu/how/can_home.html

Water Purification

The customer service has been excellent at both of these sites and the agents go out of their way to answer questions.

Berkey

www.berkeywater.com

General Ecology

www.generalecology.com

Federal Websites

The Federal Government has an extensive array of websites designed to help families prepare for emergencies. Most offer free downloads or will mail you booklets to aid you in making a family plan. Some offer activities for children and all have the most up-to-date information on global, national, and local threats. Bookmark them today, and spend some time seeing what they offer. Here are my top ten web addresses for preparedness.

www.ready.gov

This site offers some basic information as well as extensive booklets and guides.

www.cdc.gov

This site will keep you informed of disease outbreaks and provides basic information on health and safety.

www.foodsafety.gov

An emergency provides lots of opportunity to run into food safety questions and difficulties. This is the clearing house for all things related to food safety.

www.weather.gov

This is the place for all things pertaining to weather forecasting and warnings.

www.noaa.gov

If you live in hurricane country you will want this site bookmarked, as it has all the information related to oceanic and atmospheric conditions.

www.nrc.gov

Here's the place to look for information on radiological emergency preparedness.

www.fhwa.dot.gov/trafficinfo

If you need to evacuate, check here for maps and information about road closures and traffic conditions.

http://fsapps.nwcg.gov/

Here is the national database of state and local wildfire mitigation programs.

www.pandemicflu.gov

Keep track of worldwide pandemic and flu outbreaks.

Recommended Reading

This is a comprehensive list of all the titles in the On the Bookshelf sidebars.

First Aid

The American Red Cross First Aid & Safety Handbook, by American Red Cross and Kathleen A. Handal, Little, Brown and Company

The Survival Doctor's Complete Handbook: What to Do When Help Is NOT on the Way, by James Hubbard, Reader's Digest

The Survival Medicine Handbook: THE Essential Guide for When Medical Help is NOT on the Way, 3rd ed., by Joseph Alton and Amy Alton, Doom and Bloom

Where There Is No Dentist, by Murray Dickson, Hesperian Foundation

Where There Is No Doctor: A Village Health Care Handbook, rev. ed., by David Werner with Carol Thurman and Jane Maxwell, Hesperian Foundation

Where Women Have No Doctor: A Health Guide for Women, updated ed., by A. August Burns, Ronnie Lovich, Jane

Maxwell, and Katharine Shapiro, Hesperian Foundation

Food Preparation and Storage

100 Day Pantry: Quick and Easy Gourmet Meals, by Jan Jackson, Cedar Fort, Inc.

Apocalypse Chow: How to Eat Well When the Power Goes Out, by Jon Robertson with Robin Robertson, Simon Spotlight Entertainment

Ball Blue Book Guide to Preserving (Currently in its 37th edition, this guide is updated frequently.)

The Beginner's Guide to Preserving Food at Home, 3rd ed., by Janet Chadwick, Storey Publishing

Cooking with Food Storage Made Easy, by Debbie G. Harman, Covenant Communications

Cookin' with Home Storage, by Peggy Layton and Vicki Tate, Gold Leaf Press

The Dehydrator Bible, by Jennifer MacKenzie, Jay Nutt, and Don Mercer, Robert Rose

Food Security for the Faint of Heart: Keeping Your Larder Full in Lean Times, by Robin Wheeler, New Society Publishers

How to Store Your Garden Produce: The Key to Self-Sufficiency, by Piers Warren, Green Books

I Can't Believe It's Food Storage, by Crystal Godfrey, Four Peaks Press

Independence Days: A Guide to Sustainable Food Storage & Preservation, by Sharon Astyk, New Society Publishers

Making Home: Adapting Our Homes and Our Lives to Settle in Place, by Sharon Astyk, New Society Publishers

The Pickled Pantry, by Andrea Chesman, Storey Publishing

Preserving Food without Freezing or Canning: Traditional Techniques Using Salt, Oil, Sugar, Alcohol, Vinegar, Drying, Cold Storage, and Lactic Fermentation, by The Gardeners and Farmers of Terre Vivante, Chelsea Green Publishing

Putting Food By, 5th ed., by Janet Greene, Ruth Hertzberg, and Beatrice Vaughan, Plume

Root Cellaring: Natural Cold Storage of Fruits & Vegetables, by Mike and Nancy Bubel, Storey Publishing

So Easy to Preserve, 5th ed., by Elizabeth Andress and Judy Harrison, University of Georgia Cooperative Extension Service

Store This, Not That!: The Quick and Easy Food Storage Guide, by Crystal Godfrey and Debbie Kent, Front Table Books

Survival Mom: How to Prepare Your Family for Everyday Disasters and Worst-Case Scenarios, by Lisa Bedford, HarperOne

Wild Fermentation: The Flavor, Nutrition, and Craft of Live-Culture Foods, 2nd ed., by Sandor Ellix Katz, Chelsea Green Publishing

Gardening

Don't Throw It, Grow It!: 68 Windowsill Plants from Kitchen Scraps, by Deborah Peterson and Millicent Selsam, Storey Publishing

Fruits and Berries for the Home Garden, by Lewis Hill, Storey Publishing

Gardening When It Counts: Growing Food in Hard Times, by Steve Solomon, New Society Publishers

Homegrown Herbs, by Tammi Hartung, Storey Publishing

How to Grow Winter Vegetables, by Charles Dowding, Green Books

MiniFarming: Self-Sufficiency on 1/4 Acre, by Brett L. Markham, Skyhorse Publishing

Paradise Lot: Two Plant Geeks, One-Tenth of an Acre, and the Making of an Edible Garden Oasis in the City, by Eric

Toensmeier with Jonathan Bates, Chelsea Green Publishing

The Polytunnel Handbook, by Andy McKee and Mark Gatter, Green Books

The Resilient Gardener: Food Production and Self-Reliance in Uncertain Times, by Carol Deppe, Chelsea Green Publishing

Seed to Seed: Seed Saving and Growing Techniques for Vegetable Gardeners, by Suzanne Ashworth, Seed Savers Exchange

The Vegetable Gardener's Container Bible, by Edward C. Smith, Storey Publishing

Vertical Vegetables & Fruit: Creative Gardening Techniques for Growing Up in Small Spaces, by Rhonda Massingham Hart, Storey Publishing

Self-Sufficiency

5-Gallon Bucket Book: DIY Projects, Hacks and Upcycles, by Chris Peterson, Voyageur Press

Back to Basics: A Complete Guide to Traditional Skills, 4th ed., ed. Abigail R. Gehring, Skyhorse Publishing

The Backyard Homestead Book of Building Projects: 76 Useful Things You Can Build, by Spike Carlsen, Storey Publishing

The Complete Photo Guide to Home Repair, by Black & Decker, Cool Springs Press

Dare to Repair: A Do-It-Herself Guide to Fixing (Almost) Anything in the Home, by Julie Sussman and Stephanie Glakas-Tenet, William Morrow

DIY Projects for the Self-Sufficient Homeowner: 25 Ways to Build A Self-Reliant Lifestyle, by Betsy Matheson, Creative Publishing International

The Encyclopedia of Country Living: The Original Manual for Living Off the Land & Doing It Yourself, 40th anniversary ed., by Carla Emery, Sasquatch Books

The Forgotten Skills of Self-Sufficiency Used by the Mormon Pioneers, by Caleb Warnock, Cedar Fort, Inc.

Foxfire Books, 12 volumes, Anchor Books

HomeMade: 101 Easy-to-Make Things For Your Garden, Home, or Farm, by Ken Braren and Roger Griffith, Storey Publishing

The Homesteading Handbook, 4th ed., ed. Abigail R. Gehring, Skyhorse Publishing

How Your House Works: A Visual Guide to Understanding and Maintaining Your Home, by Charlie Wing, RSMeans

Life Hacks: Helpful Hints to Make Life Easier, by Dan Marshall, Harper Design

The New Self-Sufficient Gardener, by John Seymour, DK

Prepper's Long-Term Survival Guide: Food, Shelter, Security, Off-the-Grid Power and More Life-Saving Strategies for Self-Sufficient Living, by Jim Cobb, Ulysses Press

Storey's Basic Country Skills: A Practical Guide to Self-Reliance, by John and Martha Storey, Storey Publishing

Survival Hacks: Over 200 Ways to Use Everyday Items for Wilderness Survival, by Creek Stewart, Adams Media

Vinegar, Duct Tape, Milk Jugs & More: 1,001 Ingenious Ways to Use Common Household Items to Repair, Restore, Revive, or Replace Just About Everything in Your Life, by Earl Proulx and the editors of *Yankee Magazine*, Rodale Press

When Technology Fails: A Manual for Self-Reliance, Sustainability and Surviving the Long Emergency, by Matthew Stein, Chelsea Green Publishing

For Kids of All Ages

The Berenstain Bears Get the Scaredies, by Stan and Jan Berenstain, Random House

The Big Dark, by Rodman Philbrick, Scholastic

Blizzard, by John Rocco, Disney-Hyperion

A Brighter Tomorrow: A Workbook to Help Kids Cope with Traumatic Events, by Erainna Winnett, Counseling with

Heart

Crunch, by Leslie Connor, Katherine Books

The Giver and *Number the Stars*, by Lois Lowry

Hatchet, *Brian's Winter*, and *The River*, by Gary Paulsen

Healing Days: A Guide for Kids Who Have Experienced Trauma, by Susan Farber Straus, Magination Press

Island of the Blue Dolphins, by Scott O'Dell

Lost on a Mountain in Maine, by Donn Fendler

My Side of the Mountain, *On the Far Side of the Mountain*, and *Julie of the Wolves*, by Jean Craighead George

Night of the Twisters, by Ivy Ruckman, HarperCollins

Out of the Dust, by Karen Hesse

The Sign of the Beaver, by Elizabeth George Speare

A Terrible Thing Happened, by Margaret M. Holmes, Magination Press

Two Bobbies: A True Story of Hurricane Katrina, Friendship, and Survival, by Kirby Larson and Mary Nethery, Bloomsbury USA Children's

The Upstairs Room, by Johanna Reiss

Whimsy's Heavy Things, by Julia Kraulis, Tundra Books

Zane and the Hurricane: A Story of Katrina, by Rodman Philbrick, Blue Sky Press

Magazines

These magazines have great information for anyone wanting to be more resilient. Look for titles at farm supply and home improvement stores. Back issues can often be found at yard sales and library sales, as well as from the publishers. Check Craigslist.org for complete sets.

BackHome

Backwoods Home Magazine

Capper's Farmer

Countryside

From Scratch

Grit

Hobby Farms

Living Homegrown

Mother Earth News

Out Here

Self Sufficiency Magazine

Metric Conversions

TO CONVERT	TO	MULTIPLY
ounces	grams	ounces by 28.35
pounds	grams	pounds by 453.5
pounds	kilograms	pounds by 0.45
teaspoons	milliliters	teaspoons by 4.93
tablespoons	milliliters	tablespoons by 14.79
fluid	ounces	milliliters fluid ounces by 29.57
cups	milliliters	cups by 236.59
cups	liters	cups by 0.24
quarts	liters	quarts by 0.946
gallons	liters	gallons by 3.785
inches	centimeters	inches by 2.54
feet	meters	feet by 0.3048
yards	meters	yards by 0.9144
TO CONVERT	**TO**	
Fahrenheit	Celsius	subtract 32 from Fahrenheit temperature, multiply by 5, then divide by 9

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